BERICHTE
aus dem Fachbereich Geowissenschaften
der Universität Bremen

No. 253

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Berichte, Fachbereich Geowissenschaften, Universität Bremen, No. 253,
Bremen 2006

ISSN 0931-0800

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Citation:
Kopf, A. and cruise participants,
Report and preliminary results of POSEIDON Cruise P336, Heraklion - Heraklion, 28.04. – 17.05.2006.
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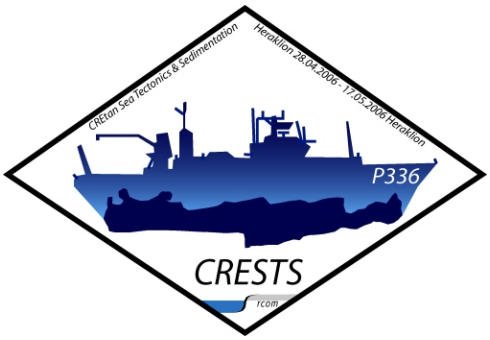

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Preface

The expedition P336, termed CRESTS (=CREtan Sea Tectonics and Sedimentology), takes the German research vessel R/V Poseidon into the Cretan Sea for the first time. Main reason for this regional target is the exceptional role of the area of Crete as an exhumed forearc-high in a compressional tectonic setting. CRESTS aimed to study sediment stability along the northern slopes of the island of Crete and adjacent basins of the Cretan Sea in the north. The study area is bordered by the volcanic arc of the Aegean islands, which themselves represent slope instability hazard here. The scientific party gathered experts in the fields of geophysics, geology, geotechnics, and modeling of geosystems, largely from RCOM and University of Bremen, and additionally from ETH Zürich, Switzerland, and HCMR, Greece.

The main interest in the area arises from the fact that the Cretan Margin is an ideal natural laboratory to study a variety of neotectonic and sedimentary processes, which include

(micro)seismicity and active extensional faulting,

large-scale transpressional movement,

rapid sedimentation and turbidites, and

episodic submarine landslides.

In addition, we aimed to identify potential sites of active fluid venting, which are probably linked to the deep-seated faults of the exhumed Cretan forearc high.

In a broader context, the cruise P336 stands in a line of investigations in the entire Hellenic subduction zone. This area is predestined for researchers interested in active convergent margins, mostly because the subduction zone processes are accentuated here due to the indentation of the Libyan promontory south of Crete. So far, a lot of research has been dedicated to the region south of the island, especially the Ionian and Herodotus basins and the Mediterranean accretionary complex. This included national and international seagoing campaigns with various objectives, one of which was the highly successful ODP drilling leg 160. The island of Crete itself has further been considered a target for onshore ICDP (= International Continental Drilling Program) drilling. However, the Cretan Sea, which is situated between the Aegean islands and the island of Crete, represents the landwardmost portion of the forearc, but was so far neglected as a research target. With CRESTS, we now wanted to address some of the open questions of this portion of the highly dynamic collisional setting between the African and Eurasian plates.

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1. Abstract

Cruise P336 CRESTS with R/V Poseidon studied the eastern portion of the Cretan Sea, north of the island of Crete, Greece. This area of the eastern Mediterranean Sea represents the northernmost portion of the forearc region of the Hellenic subduction zone, located immediately south of the volcanic island arc (Aegean islands of Santorini, etc.). Owing to the rather complex tectonic history with Crete having been exhumed from about 20 km depth to its present day's position, the geodynamic as well as mechanical environment is rather complex. Crete is currently extending in both E-W- and N-S-direction, with a lot of microseismicity, neotectonic movements, and mass wasting as a result.

Landslide processes, turbidites, and other consequences of slope instability were the aim of this RCOM expedition into two subbasins of the Cretan Sea, the Heraklion and Kamilonisi basins. An area of approximately 2450 km2 was surveyed in a multi-methodological approach, using multibeam swathmapping, seismic reflection systems (3.5 kHz and 16-channel seismics), in situ measurement of strength, pore pressure and heat flow, and gravity coring for laboratory studies on board and onshore. The various measurements can be separated into 6 small study areas A-F, which included the western slope of the Heraklion Basin (area A), the eastern margin of that same basin (area B), a tectonic high termed "Horseshoe structure" (area C), a large landslide complex at the NE' Cretan Margin (area D), a small, but steep landslide scarp structure further east (area E), and a deep site in the Kamilonisi Basin in the east (area F).

Preliminary results of cruise P336 are here wrapped into the following statements. All aspects will be deepened by more detailed post-cruise research.

A large number of landslides and other mass wasting deposits has been identified on seismic reflection profiles. The materials recovered have relatively high porosities (ca. 60% on average), but otherwise lack direct evidence of amalgamation.

Depositional events such as Sapropels S1, S3, or the Minoan volcanic eruption cause strong deviations in most physical properties (MSCL core logger) and are harder than their surrounding sediments.

The Horseshoe structure shows anomalously high thermal gradients, suggesting tectonic activity at depth. Sediment cores fail to explain or hint towards the nature of this feature.

2. Introduction

The population of active convergent margins is blessed with repeated large subduction thrust earthquakes, landslides, and other threats for human life, ecosystems and infrastructure. Given that 60 % of the Earth's population lives within the frontal 50 km of the coast, enormous scientific and economic efforts are hence undertaken to shed light on the processes responsible for such ocean margin geohazards. Given the highly dynamic setting and complexity of collision zones, many processes are still poorly understood. Amongst the shortcomings in understanding collision zones such as the eastern Mediterranean, the temporal variation of deep-seated processes as well as their manifestations at shallower levels is the emerging key question. This addresses both landslides and other mass wasting deposits, and sites of fluid venting, possibly being of deep origin.

The Hellenic Subduction Zone (HSZ) in the Eastern Mediterranean Sea represents a mature collision zone where African crust is thrust beneath Eurasia (Fig. 1). As a consequence, a wide backstop area of partly old accreted strata (marine), partly HP/LT rocks (exhumed island of Crete as forearc high; Altherr et al., 1982), an extensional submerged landward forearc (Cretan Sea), and a volcanic arc and backarc basin (Aegean Sea) evolved (Le Pichon & Angelier, 1979). Since many scientists from different fields have identified the HSZ as a promising research target, both seismic onshore and offshore networks (Harjes et al., 1997; Meier et al., 2004; Bohnhoff et al., 2006) and deep-sea cables (e.g., NESTOR) already exist. As a result, many research initiatives within the EU ‘HERMES’ project as well as observatory science programmes (e.g., ‘ESONET’ Network of Excellence) focus on the HSZ. Scientific drilling has been carried out earlier (e.g., ODP Leg 160; Emeis et al., 1996) and has also been proposed for the near future (e.g., Kopf et al., 1999). Most of the targets neglect the Cretan Sea so that an initiative by combining offshore (IODP = Integrated Ocean Drilling Program) and onshore / shallow water (ICDP) targets have been proposed (Zoback & Emmermann, 2006; Kopf & Bohnhoff, 2006).

The *CRESTS* expedition focuses on two main achievements:

Study of slope instability and related geohazardous processes at the northern Cretan Margin and, to a lesser extent, the slopes of the Aegean volcanic islands;

Acquisition of site survey information for ICDP Glad800 drilling, or alternatively, IODP MSP[G1] (i.e. mission-specific platforms) drilling in the area.

While the first is one of the key targets in Research Area C of RCOM Bremen, the latter ties the research carried out with R/V Poseidon to international initiatives on an European and global scale.

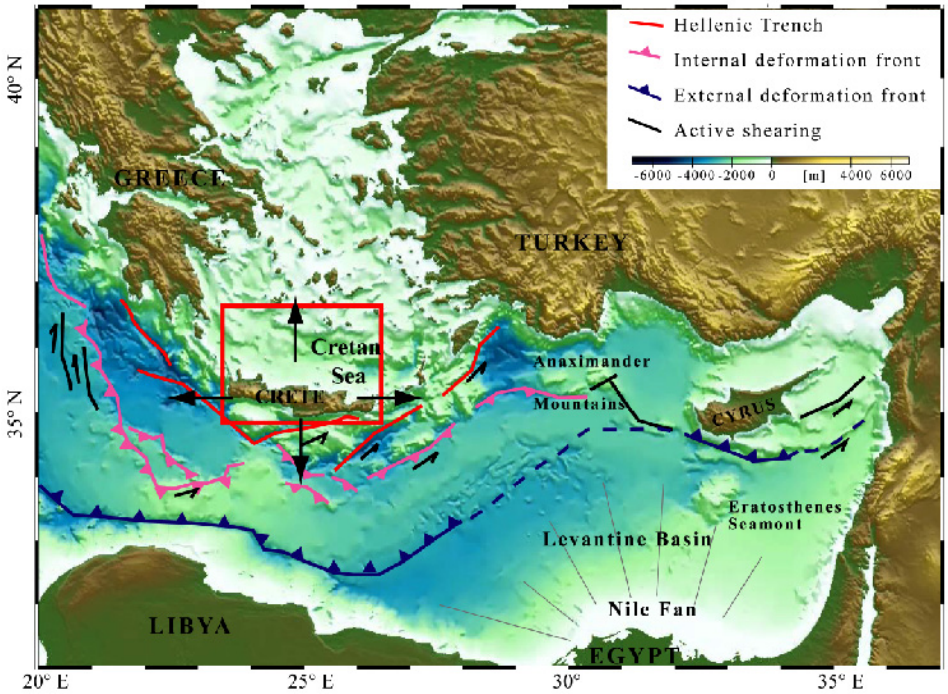


Fig. 1. Schematic map of the Eastern Mediterranean Sea and surrounding land masses where Africa and Eurasia collide. Red box shows the P336 study area (see also Figure 6).

If we regard the Eastern Mediterranean, the most prominent feature is the arcuate, up to 200 km wide, 1500 km long Mediterranean Ridge accretionary complex south of the island of Crete. The island acts as an abutment, or backstop, to the accreted strata, and comprises a stack of nappes of variable lithologies (for details, see e.g. Altherr et al., 1982; Fassoulas et al., 1994). Mechanically, the situation is rather complex, because Crete is extending in both E-W- and N-S-direction, being potentially landslide prone because of its neotectonic movements and frequent micro-earthquakes. Landsliding occurs along the steep to moderately inclined slopes north (i.e., study area of cruise P336) as well as south of the island.

Landslides are one of the most immanent hazards in the Cretan Sea, both triggered by the tectonic movements of the Cretan block in the south (e.g. Chronis et al., 2000a, 2000b) and flank collapse of volcanic islands in the N (e.g. Dominey-Howes et al., 2000). Although the inherent mechanisms and factors governing slope stability and submarine landslides are known, their temporal and spatial variability is poorly understood. In fact, the exact trigger mechanisms of

only a few submarine landslides are known with certainty (Mienert et al. 2003). In general, submarine landslides occur due to an increase in loading on a slope, which may in turn lead to an increase in shear stress, relative to shear strength. Possible trigger mechanisms for submarine landslides include sea level change, high sedimentation rates, oversteepening of the slope gradient, wave activity (especially during storm events), gas hydrate dissociation, pore pressure increase, tsunamis, and earthquakes. Since several of the above triggers may apply for the Cretan Margin, one of the key objectives of cruise P336 CRESTS was to shed light on the sedimentary and tectono-physical environment using geophysical, sedimentological and in situ methods.

3. Scientific objectives

Expedition P336 using R/V Poseidon aimed to carry out a multidisciplinary investigation with a group of European geoscientists including geophysical data acquisition (seafloor mapping, seismic reflection), sediment coring, in situ CPT, and heat flow measurements across the northern Cretan Margin. The scientific motivation for the proposed work is best outlined with respect to the understanding of parameters controlling sediment physics, and ultimately geohazards such as landslides and other mass wasting events. The two main players in weakening a fault as to where it may slip are weak mineral phases and excess fluid pressures. While the first are mainly restricted to the clay mineral group (with the weakening being enhanced by their preferred fabric alignment), the latter may originate from various processes in nature that cause net water release, or water influx into a system. These include basically all geological settings onshore and offshore, and are as diverse as mineral transformation reactions (clay minerals, opal-quartz reactions, etc.), diagenesis, hydrothermal alteration, lateral flow, mud volcanism, tectonic/tidal/sedimentary/glacial loading, weathering processes, or rapid sediment accumulation.

During P336, we followed a multi-methodological two-phase approach:

In a first step, we used multibeam swathmapping and different seismic reflection methods to identify landslide and mass wasting deposits.

Based on these data, we aimed to characterise these deposits by in situ measurements and sampling/laboratory methods in a second step. The first included Cone Penetrating Testing (CPT), where pore pressure and sediment strength are obtained, and sub-surface heat flow measurements, whereas the latter were gravity coring and laboratory studies on board (sedimentological description, petrography, physical properties).

Finally, shore based studies will include additional geotechnical physical property testing, pore water geochemistry, and possible dating of the mass wasting events.

4. Geological setting

4.1. The Hellenic subduction zone (HSZ)

The Eastern Mediterranean hosts one of the most prominent retreating convergent margins worldwide that was capable to generate M>8 earthquakes (e.g., 365 AD, western Crete) and exhaustive volcanic eruptions (e.g., 1170 BC, the so called Minoan eruption of Santorini volcano) in historic times. The Hellenic collision system is an ideal natural laboratory to study subduction-collision that is well recorded over the past ca. 35 million years. Many manifestations of the ongoing collision are directly linked to the Alpine orogenesis, which terminated in the Miocene (Mercier et al., 1979; Le Pichon & Angelier, 1979; McKenzie, 1978). The geodynamic processes included an intermittent stage of micro-continent collision between about 30 and 20 Ma, followed by break-off of the subducting slab, trench roll-back, and incipient collision with the passive African margin today (Fig. 2; e.g. Thomson et al., 1998).

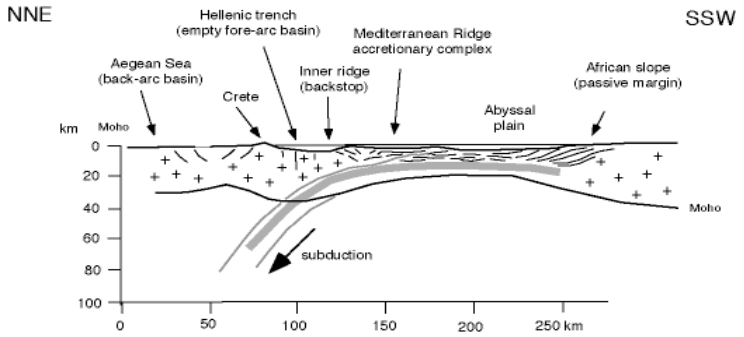


Fig. 2. Schematic cross section of the Mediterranean Sea with the Eurasian Margin in the N and the African passive margin in the S. See text. Modified after Kopf et al. (1998).

The island of Crete represents a horst structure developed within the last 5 million years in the central forearc. Owing to its evolution, it comprises of various diagenetically or metamorphically altered sequences of primarily sedimentary origin (Fassoulas et al., 1994; Kopf et al., 1999). As a result of the above mentioned stack of thrust nappes of the Pindos and Gavroro units (diagenesis to low-grade metamorphism), which are underlain by the HP-LT rocks of the Phyllite-Quartzite-

and Plattenkalk units, a km-thick sequence of rock is accessible at various levels (e.g. Avigad & Garfunkel, 1991; see Figs. 2, 3). Both rapid exhumation of thrust sheets to form the Crete forearc high and the extreme thinning of the frontal part of the upper plate continental crust are believed to have been accommodated by southward retreat "roll-back" of the downgoing slab for up to ca. 19 Ma (Thomson et al., 1998). Extensional tectonics has migrated southwards with time, and now affects the southernmost part of the backstop off Crete (Fig. 2). The transition from extension at the leading edge of the overriding plate (Cretan forearc), to compression in the backstop setting is particularly important as it remains unclear how the two, apparently paradoxical, processes of extension in the upper part of the forearc and compression along the converging plate interface are coupled.

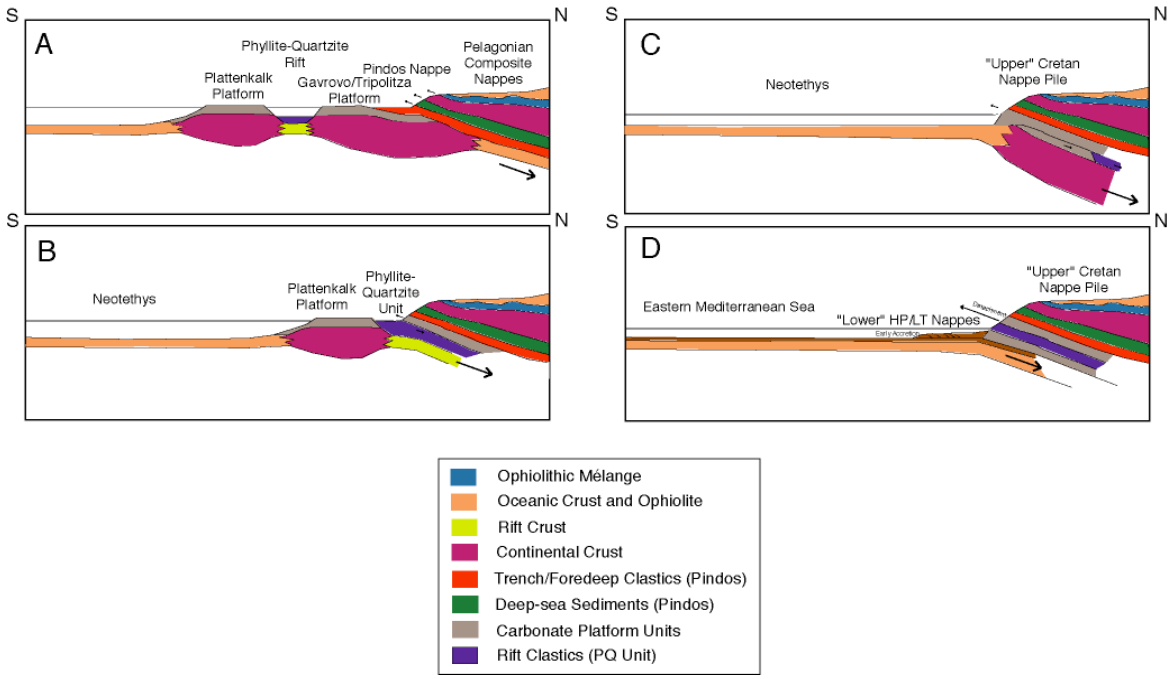
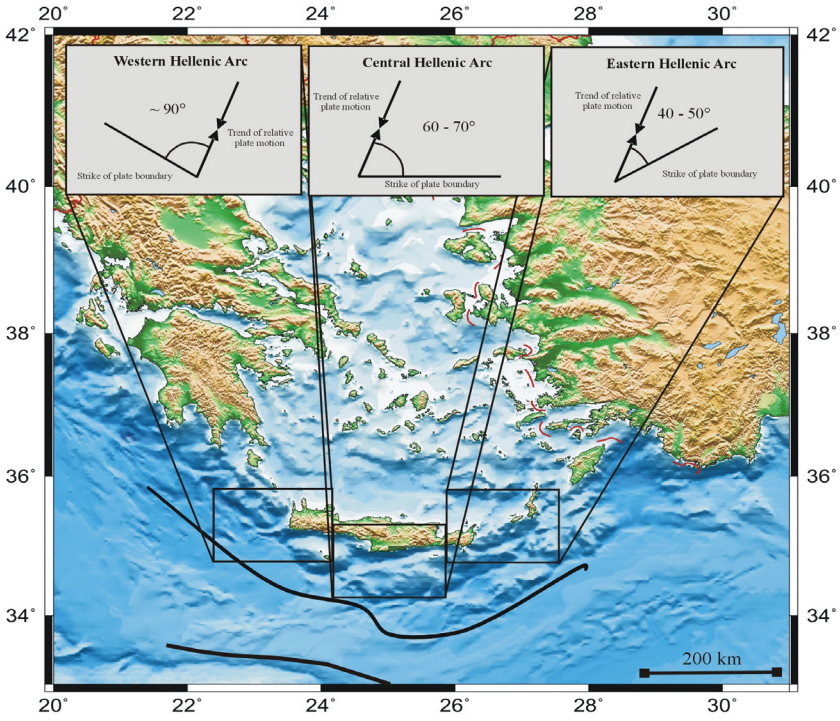


Fig. 3. Schematic overview of the evolution of the late Neothethyan ocean until now. The Pindos ocean finally closed, driving allochthonous units over the Gavrovo platform unit; 35-40 Ma bp; B) the Gavrovo unit carbonate platform was accreted to the base of the overriding thrust stack and the Phyllite-Quartzite and Plattenkalk units began to be overthrust; ~30 Ma bp; C) Phyllite-Quartzite and Plattenkalk units were subducted to c30 km depth and metamorphosed to high pressure; begin of subduction of Neotethys; 20-25 Ma bp; D) Exhumation of PQU and Plattenkalk at ~19 Ma bp; beginning accretion of the Mediterranean Ridge was initiated. Modified after Kopf et al. (1999).

On Crete, frontal accretion and underplating was active whilst the hinterlandward part of the stack was detached, unroofing metamorphic rock in the process which had been at >30 km depth beforehand (i.e., Phyllite-Quartzite- and Plattenkalk units). After slab breakoff, buoyant sedimentary units underthrust the nappe pile of Crete along a shallow-dipping detachment fault, associated with tectonic uplift and formation of a forearc high which then acted as an initial

'rigid' backstop to sediment being offscraped from the Neotethyan seafloor (Fig. 3).Plate kinematic reconstruction suggests trench "roll-back" and accretion of a wide accretionary prism at the leading edge of the Eurasian Plate, whilst the forearc of Crete underwent extensional deformation during the Neogene.



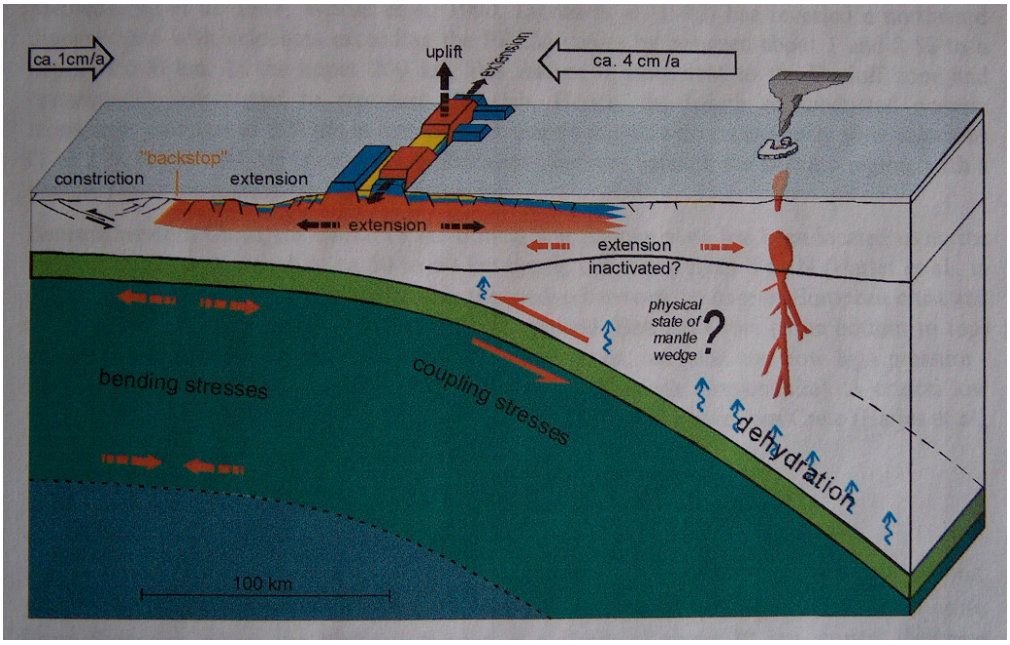


Fig. 4. Geodynamic situation in the HSZ: A) Compressional (W) and transpressional/oblique subduction along the deformation front south of Crete; B) overall geodynamic situation around Crete and its vicinity. Note the extension in both N-S- and E-W- direction despite the general situation of an initial continent-continent collision.

To its south, the main features are shown in Figures 2 and 5, i.e. the North African passive margin in the S, a broad accretionary complex (~100-120 km) overriding it, and its backstop domain (~80 km width) just south of the forearc-high (Crete). The backstop domain, also known as “Inner Ridge” of the broad Mediterrananean Ridge accretionary complex (Fig. 5), is strictly speaking a depression (i.e. forearc basin). It is part of the so called “Hellenic Trench” (comprising the Plini and Strabo “Trenches”), a sediment-starved suture where the accretionary wedge is backthrust over the Inner Ridge strata (Camerlenghi et al., 1995; Chaumillon & Mascle, 1997; Kopf et al., 2003).

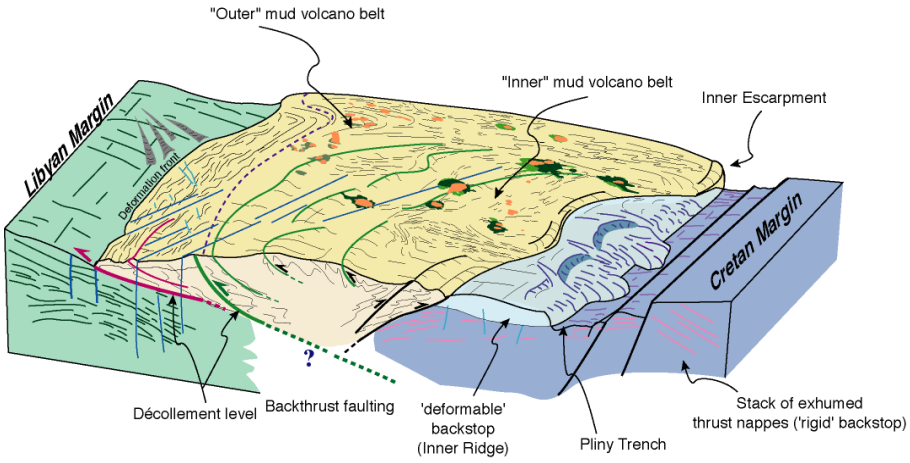


Fig. 5. Block diagram showing the Cretan margin and its southern continuation, the “InnerRidge” backstop and Mediterranean Ridge accretionary complex overriding the African Margin. From Kopf et al. (1999).

In the N, Crete is bordered by the Cretan Sea, the moderately active volcanic arc (e.g. Santorini and adjacent islands), and the Aegean Sea back-arc basin. Fluid venting, sometimes from great depth and with enigmatic geochemical signatures, is known from both the distal accretionary complex south of Crete (e.g. Deyhle & Kopf, 2001; Kopf et al., 2001) as well as the Cretan Sea north of the island (Fitzsimons et al., 1997; Georgopoulos et al., 2000). Back-arc volcanism and spreading are moderate now, however, evidence of volcanism and extension are found throughout the marine realm north of Crete (see Chapter 4.2). The volcanic arc corresponds to the southern part of the Cyclades Plateau and sills, which separate the Northern and Central from the Southern Aegean subbasins. The southern Aegean Basin, or Cretan Sea, is the largest of these depressions (e.g. Giresse et al., 2003).

4.2. The Cretan Sea

The geological structure of the Cretan Basin (Greece) is ultimately linked to the Alpine orogenesis (e.g. Le Pichon & Angelier, 1979). It is a depression with various topographic lows or subbasins, separated by ridges of variable height and strike. From W to E, they include Myrtoon Basin, main Cretan Sea, and eastern Cretan Sea subbasin. The so called Kamilonisi basin is the deepest basin in the east, located south of the Cyclades plate and volcanic chain, and reaches up to ca. 2500 m water depth (Fig. 6; see also Stavrakakis et al., 2000).

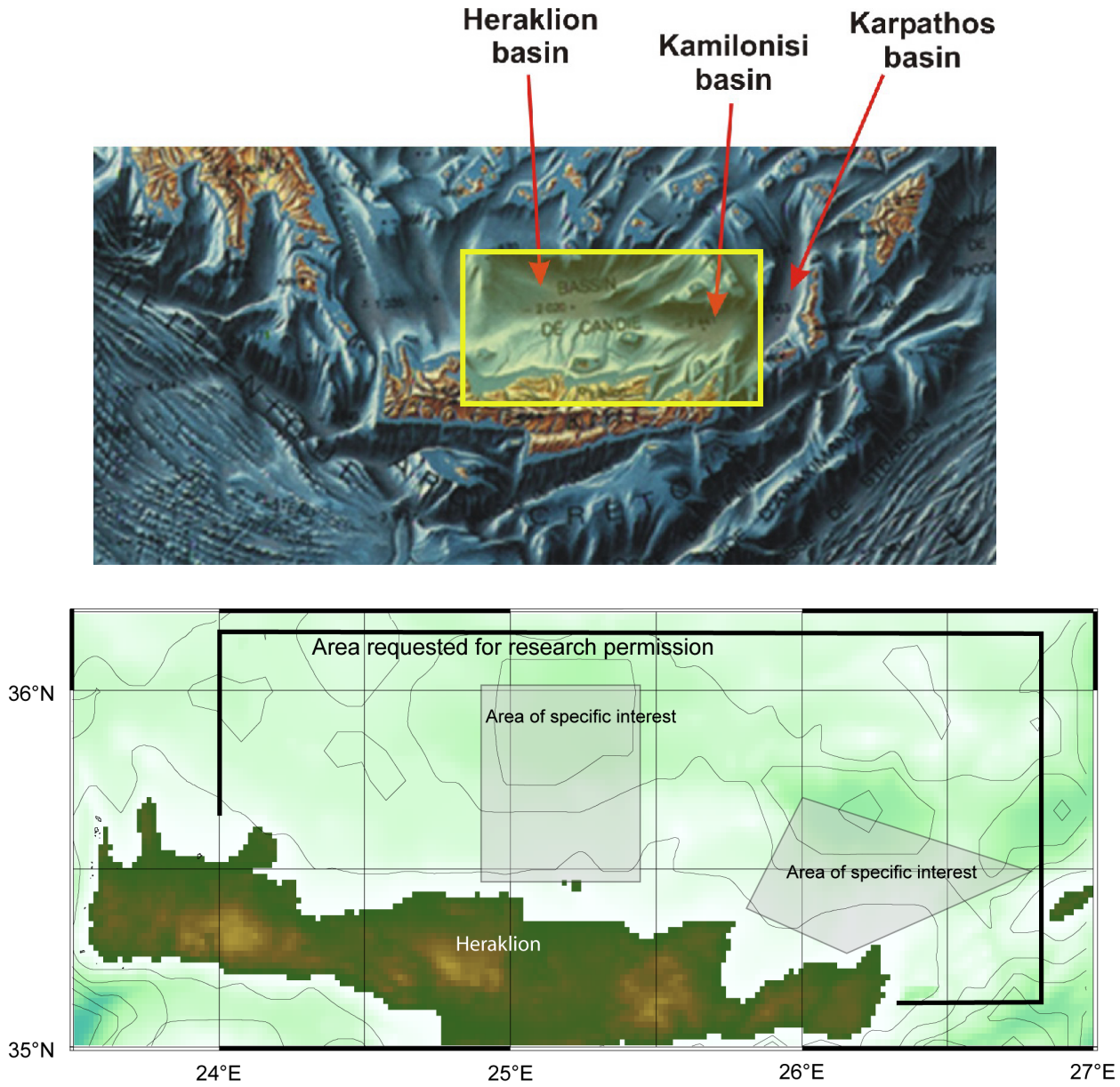


Fig. 6. A) Map showing Cretan Sea sub-basins (shaded area shows region for which research permission was obtained); B) Cretan Sea bathymetric chart with the location of the working areas during cruise P336.

The main extentional phase of the Cretan basin occurred between Late Miocene and Pliocene whilst during the Late Pleistocene experienced only minimal extension phenomena (Mascle & Martin, 1990). Tectonic movements still occur today, as indicated by recent seismicity and volcanic activity throughout the area (McKenzie, 1978). Geomorphologically, the Cretan Basin is an elongated depression, trending E–W; it is bounded to the north by the Cyclades Plateau, a relatively shallow (500 m) complex of islands, and to the south by the island of Crete (Fig. 1). Water depths are generally larger than 1000 m with localized deeper (ca. 2500 m) subbasins located in the eastern part of the study area (see shading in Fig. 6a). Cruise P336 focused on the Kamilonisi basin in the east and Heraklion basin in the west (Fig. 6). The south Cretan Sea has been extensively surveyed in terms of geological structure, tectonism and associated sedimentation processes during a series of research cruises carried out by the research vessels Meteor, Shackleton, Rift, Urania, Sonne and Aegaeo. The results of these surveys have been published by Jongsma (1975), Bartole et al. (1983), Anagnostou et al. (1987), Rossi et al. (1986, 1988), and Yelnikov (1990). They confirm not only the highly active tectonic setting (e.g., Lykousis et al., 1995; Perissoratis & Papadopoulos, 1999), but emphasized the variability of the hydrological and sedimentary processes (e.g., Chronis et al., 2000a; Lykousis et al., 2002; Giresse et al., 2003). On a more general level, our results will also be tied to scientific deep drilling during earlier DSDP (Deep Sea Drilling Project) expeditions (e.g. Hsü et al., 1978).

Geophysical studies in the Cretan Sea revealed relatively steep slopes of up to 4° (Chronis et al., 2000b). Still, in places, hemipelagic sediments are accumulated in shallow and mid-slope regions. Owing to the high relief and rapid sedimentation, some of these slopes are potentially unstable (e.g. Manakou & Tsapanos, 2000). Chronis et al. (2000a, b) found evidence for young landslide and mass wasting events in the youngest portion of the sedimentary succession (e.g. Fig. 7; see also their Figs. 3 and 5). On the other hand, Chronis et al. (2000b) also state that often, the continuous slope-parallel reflectors are not significantly disturbed by the syn-sedimentary faults in the area. These authors further interpreted abundant blankening in their hydroacoustic sections as zones of free methane gas.

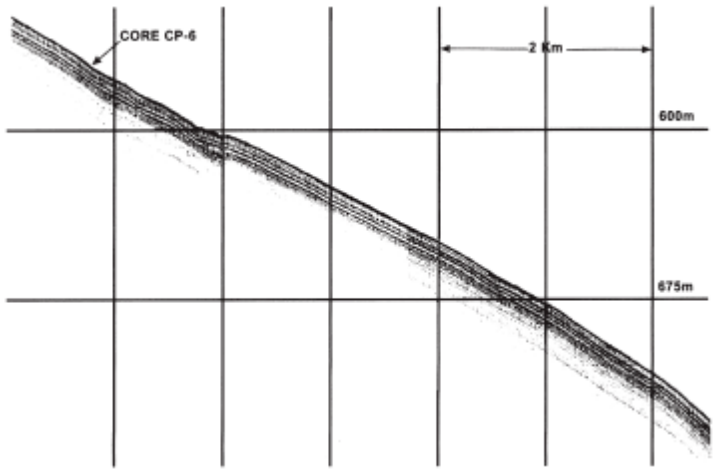


Fig. 7. 3.5 kHz hydroacoustic profile along the mid-slope (550-700 m water depth) in the eastern part of the Cretan Sea. From Chronis et al. (2000b).

There has been a number of paleoceanographic and sedimentological studies on the lithologies accumulating in the Cretan Sea recently (Chronis et al., 2000b; Giresse et al., 2003). From sediment cores taken in the entire Cretan Sea, four hemipelagic lithostratigraphic units in the glacial to Holocene sediments were identified (Aksu et al., 1995; Geraga et al., 2000; Giresse et al., 2003). From top to bottom, they are

i. yellowish brown bioturbated muds,

ii. grey mud, mottled and bioturbated,

iii. greyish, brownish to olive grey mud, >2% C_{org}, no bioturbation, and

iv. yellowish grey clayey mud, slightly bioturbated.

Units 1, 2 and 4 are further characterised by high carbonate contents of up to 60%, often as authogenically formed Mg-calcite clasts and nodules of mm-diameter (Giresse et al., 2003). The third unit coincides with an anoxic event that caused deposition of sapropel 1 (S1), which is dated to 9600 to 6400 a BP (Giresse et al., 2003). This distinct layer comprises high contents of organic matter, in places exceeding 3% (see Emeis et al., 1996). Sapropels are generally a good marker since they have a dark olive gray to black colour and a wide distribution over both the Eastern and western Mediterranean Basins (see Emeis et al., 1996; Zahn et al., 1996; Cramp & O'Sullivan, 1999). The S2 deposition in the Eastern Mediterranean is dated to has occurred between ca. 23 and 55 ka BP depending on source of the study (Muerdter et al., 1984; Lourens et

al., 1996; Kroon et al., 1998; Emeis & Sakamoto, 1998). The S3 event, which is often the second sapropel layer (since S2 is missing), is dated ca. 81 ka BP. Sapropels deeper than S3 are not expected to be recovered by the gravity corer used during cruise P336 (see Ch. 5.7 below).

The mean rate of sedimentation during the Holocene has been estimated to be >15-20 cm/ka from box- and push core samples (Chronis et al., 2000b). Based on the assumption that the prominent reflector in the seismic profiles represents the base of the Holocene (18 ka), the sediment accumulation ranges around 83-250 cm/ka on the inner and mid-shelf, and 10-35 cm/ka at the outer shelf. Lower values were found by both Geraga et al. (2000; 9-10 cm/ka) and Giresse et al. (2003; 10.7 cm/ka). For deeper burial, 3.5 kHz profiles have been used to date the Pleistocene sediments (Chronis et al., 2000b).

Similar to these paleoceanographic events, there are other distinct time markers in the area. The most prominent ones are arguably the abundant ash deposits from the volcanic islands, which are particularly reliable during historic times. For instance, the very prominent “Minoan” eruption of the Santorini volcano, Thera island, has been dated to be 3370 years BP (Pichler & Friederich, 1976). Since the volcano erupted violently for several days, causing a collapse of its entire central and southern portion, a huge deposit has been postulated for the SE’ sector relative to the island. In fact, Giresse et al. (2003) cored the event successfully in 5 out of 7 push cores (see their Fig. 4). The several cm-thick layer comprises black to light grey, sand- to gravel sized components of rhyolitic to dacitic composition. In other places in the Cretan Basin, ash layers of similar composition have also been related to the Thera event (Keller et al., 1978; Warren & Puchelt, 1990). The layer has also been recovered during other eastern Mediterranean campaigns in various places (refer to Halbach et al., et al., 1994; Aksu et al., 1995; de Rijk et al., 1999; Geraga et al., 2000).

5. Methods

5.1. Multibeam Swathmapping

(I. Kock, M. Reichelt, S. Krastel-Gudegast)

Echosounder

During the P336 cruise, the ELAC *SEABEAM 1050* multibeam echosounder was used for a continuous mapping of the seafloor. The echosounder consists of several units: (i) a transmit and a receive transducer array is fixed in a Mills cross below the keel of the vessel; (ii) a preamplifier unit contains the preamplifiers for the received signals; (iii) the transducer unit contains the transmit and receive electronics and processors for beam-forming and control of all parameters with respect to gain, ping-rate and transmit angles. Furthermore, the system monitors via serial interfaces the ship's motion, such as roll, pitch and heave, external (GPS) time and vessel position. A high performance PC is used as an Operator station. The Operator station processes the collected data, applies standard corrections, displays the results, and logs the raw data to internal or external disks.

SEABEAM 1050 uses a frequency of about 12 KHz with a whole angular coverage sector of up to 150° (75° per port-/starboard-side). One ping is sent and the receiving signal is formed into 191 beams by the transducer unit through the hydrophones in the receiver unit. The beam spacing can be defined as equidistant or equiangular, or a mix of both. Running the system in full 150°-configuration the system maps a swath of roughly 4-5 times the water depth. The ping-rate depends on the water depth and the runtime of the signal through the water column. Depending on the state of the sea, an opening angle of 60-70° was used, restricting the coverage to a max. 14 km wide swath to gain a more continuous spacing of beams on the ocean floor. The spacing within these limits was controlled automatically by the echosounder system.

5.2. Water Sound Velocity (CTD)

(S. Stegmann)

To convert the recorded travel times into depth several water velocity profiles were obtained with the shipboard CTD and entered into the operator SUN workstation. During the cruise data handling of the bathymetric data was done by the ship's system administrators. Each beam was corrected for ray bending using the appropriate sound velocity profile and the ship's motion and were finally stored with GPS position. To generate maps the data were averaged using the nearest neighbour gridding algorithm of GMT (Wessel & Smith, 1991) and displayed with the GMT mapping software. However, data were not edited for bad beams. Final data editing of the data has to be done in a post-cruise phase.

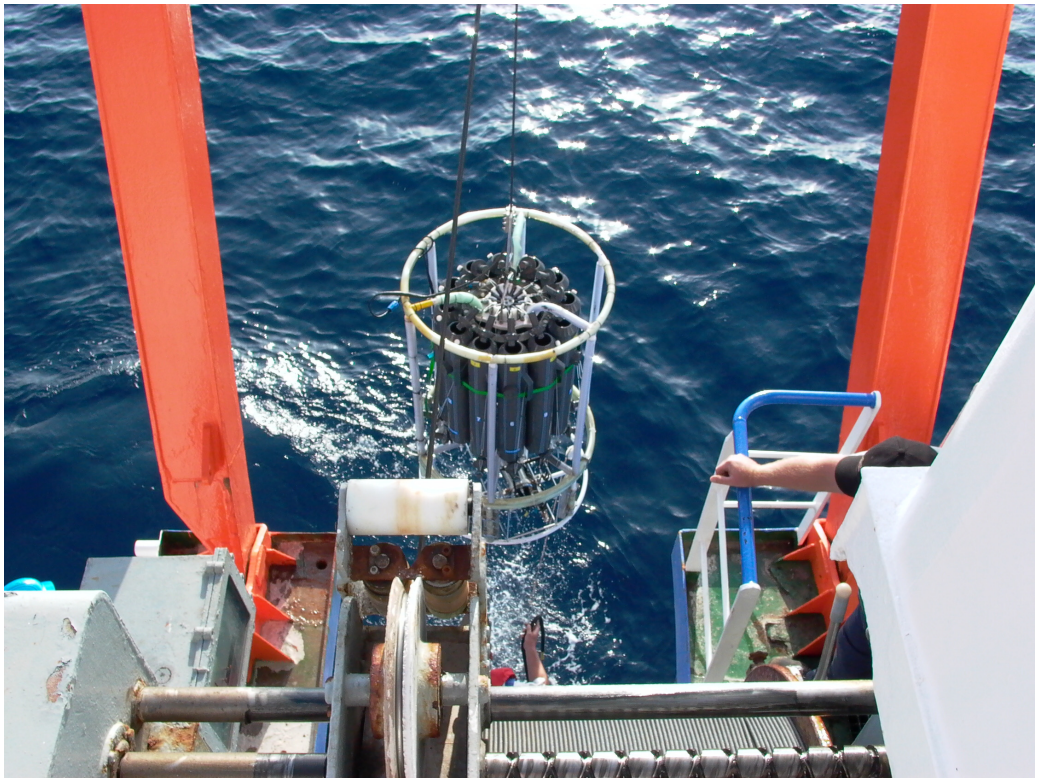


Fig. 8. CTD on board R/V *Poseidon* returning from deployment.

CTD

To obtain information about the distribution of the water masses along the Iberian coast a CTDOS (Conductivity, Temperature, Depth, Oxygen, Salinity) profiler combined with a rosette water sampler (24 Niskin bottles, 1 l volume, HydroBios) was used at one site at the beginning of cruise P336 (Fig. 8). Main reason was to determine the influence of saline, warm Mediterranean waters on the echosounder and geophysical acquisition systems (e.g., for the conversion of the recorded ELAC travel times into depth values).

5.3. 3.5 kHz profiling

(S. Krastel-Gudegast, I. Kock, M. Reichelt, M. Strasser, M. Thölen)

A conventional 3.5 kHz system was used during Poseidon-Cruise P336 for imaging the uppermost part (10s of meters) of the sedimentary section. Four transducers were mounted on a catamaran (Fig. 9), which was towed on the port side of the vessel (see Ch. 5.4.2). The transducer was connected with a Geoacoustics GeoPulse Transmitter 5430a via a cable. The transmitter generated a pulse with a frequency of 3.5 kHz. The pulse cycle was generally two except for the first few lines, where a pulse cycle of four was chosen. The shooting rate was 1 sec for water depths up to ~700m, 2 sec for water depths between ~700m and 1450m, and 3 sec for water depths > 1450m.

The incoming signal was processed by a Geoacoustics GeoPulse Receiver. The data were filtered with a band pass (2 kHz – 5 kHz) and the gain was adjusted to the signal strength. The analogue data were recorded by a DAT-Recorder together with the trigger and the GPS-signal. An Octopus 360 Sub-bottom processor was used for visualisation and digitizing of the incoming signals. Due to the limited penetration of the signal into the sediment, only a small depth window close to the seafloor is displayed and recorded.

The depth window was chosen by setting the sweep length and delay. The sweep length was 200ms during the entire cruise, while the delay was adjusted to the water depth. The selected time window was also digitized with a sampling rate of 24 kHz. The digitized data were recorded in SEGY-format on a DAT-Recorder. The processed data were plotted on a printer for immediate date control and evaluation. The main tasks of the operators are system and quality control and the adjustment of the upper limit of the reception window.

Fig. 9. Photograph of the 3.5 kHz system.

3.5 kHz data were generally collected along all the seismic lines. As data quality strongly depends on the sea state, we did not deploy the system between the evening of May 3rd and the morning of May 5th due to strong winds. Hence no 3.5 kHz data were collected for the seismic profiles GeoB06-140 to GeoB06-153 (see Ch. 6.3 below).

5.4. Seismic reflection

(S. Krastel-Gudegast, N. Kaul, B. Heesemann, I. Kock, M. Reichelt, M. Thölen)

With the high-resolution multichannel seismic equipment of Bremen University, small scale sedimentary structures and closely spaced layers can be imaged on a meter scale, which can usually not be resolved by means of conventional seismic systems. During R/V Poseidon Cruise P336, a Mini-Generator-Injector (GI) airgun with reduced chamber volume (2 x 0.25 l, 50-500 Hz) was used as seismic source. Data were recorded with a 101-m-long 16 channel

streamer with 8 hydrophones per group and a channel distance of 6.25 m. Figure 10 gives an outline of the system setup as it was used during R/V *Poseidon* Cruise P336.

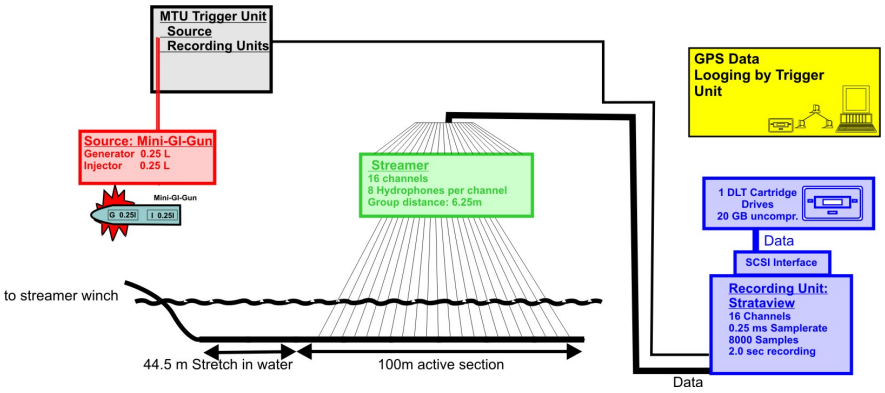


Fig. 10. Seismic system setup during cruise P336.

Seismic Source and Compressors

During seismic surveying, the Mini-GI-Gun was towed at the port side approximately 12.5 m behind the ship's stern (Fig. 11). The gun was connected to a bow with the Mini-GI-Gun hanging on two chains 30 cm beneath. An elongated buoy, which stabilized the guns in a horizontal position at a water depth of ~70 cm, was connected to the bow by two rope loops. The Injector was triggered with a delay of 20 ms with respect to the Generator signal, which basically eliminated the bubble signal.

Air was provided by two portable KAP14 Bauer compressors, which provided 380 l/min of air each. The Mini-GI-Gun was shot at an air-pressure of ~140-150 bar. The shooting rate was 8 seconds. The ship speed during seismic profiling was ~4 kn resulting in a shot-point distance of ~17 m. The geometry of source and receiver systems during the measurements is shown in Figure 11.

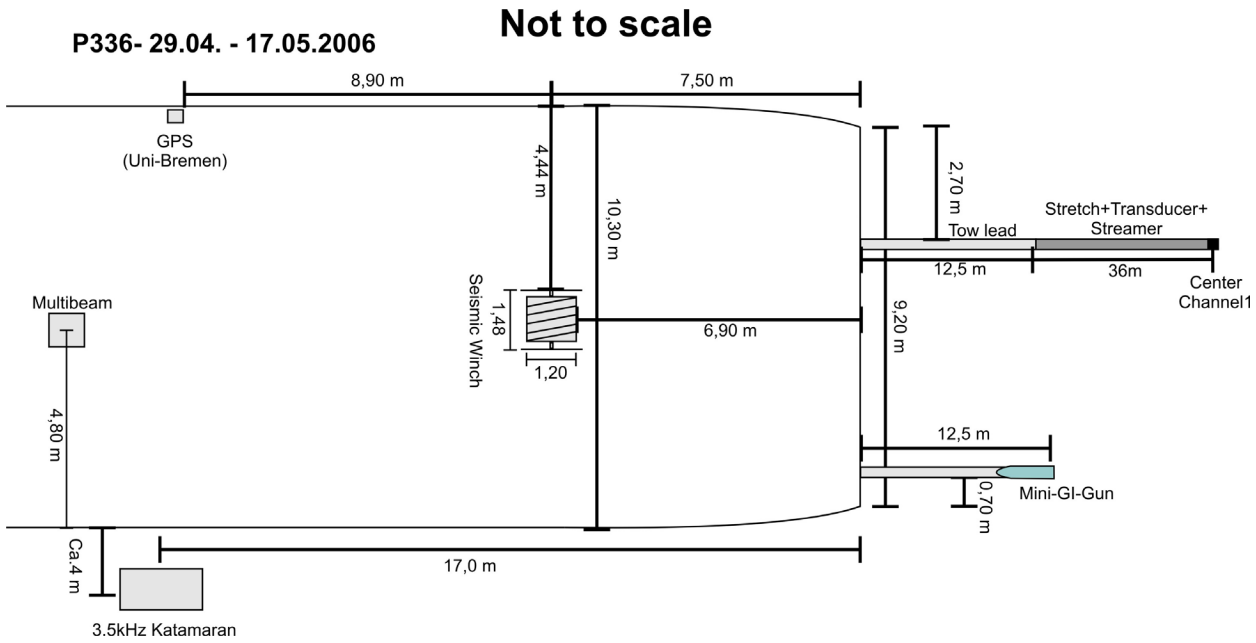


Fig. 11. Deck and seismic gun setting during cruise P336.

Streamer

The reflection seismic data are obtained using a 101-m-long streamer. It is a 16 channel unit built by Teledyne Exploration Co. in 1993. The system comprises four parts, a 101 m active length, a 25 m stretch section, a 120 m tow leader, and a 75 m deck leader (Fig. 12). Only 12.5m of the tow leader were in water during cruise P336. The active streamer section is separated into 16 groups with 8 hydrophones each. Within one group the hydrophones are 0.78 m apart building a 6.25 m long unit. The whole unit is stored and operated from a manual winch mid-ship of R/V Poseidon. Tail rope is 20 m. The distance between the sips stern and the midpoint of the first channel is ~ 48.5 m.

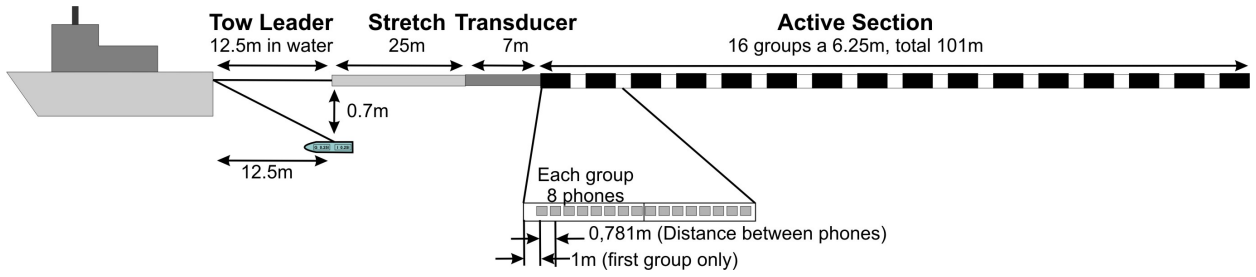


Fig. 12. Schematic sketch of the seismic acquisition configuration

Data acquisition systems

The data of the 101-m-long streamer were recorded by means of a 60-channel Geometrics Strataview, which allows a maximum sampling rate of 0.25 ms at 24 bit resolution. Only 16 channels were recorded during the cruise. The seismograph allows online data display (shot gather) and data storage on internal hard disc in SEG-2 format. Data were recorded with a sampling rate of 0.25 ms over an interval of 2 seconds. Pre-amplifiers were set to 48 dB; low cut filter to 15 Hz and the anti alias filter to 1 kHz.

The internal discs allowed data storage for about 32h of seismic profiling. Thereafter it was necessary to download the files from the hard disc. This was achieved using the software package 'roundup', which converts the individual SEG-2 files in one SEGY file and writes the data to a DLT-tape via an SCSI-interface.

Trigger unit

The custom trigger unit used controls seismic source and acquisition systems (see Streamer). The unit is set up on an IBM compatible PC with a Windows NT 4.0 operating system and includes a real-time controller interface card (SORCUS) with 16 I/O channels, synchronized by an internal clock. The unit is connected to an amplifier unit and a gun amplifier unit. The PC runs customized software that allows us to define arbitrary combinations of trigger signals. The PC was additionally used for logging of GPS-data.

Data processing

For an immediate evaluation of data quality, brute stacks of the GI-Gun data were produced for each multichannel seismic line. Processing was done with the Vista software (Seismic Image Software Ltd) on a Laptop. The field traces 1-4 were chosen for the brute stacks due to a good signal to noise ratio of these traces. The data were filtered with a wide band pass (55/110 – 600/800 Hz) and thereafter simply summed up. These images were used for preliminary analyses of the seismic data.

5.5. Heat flow measurements

(N. Kaul, B. Heesemann)

Heat Probe and Shipboard Operation

On cruise P336 a temperature gradient probe (Fig. 13) from the University of Bremen, *Meerestechnik und Sensorik* was used to obtain temperature gradients with miniaturised autonomous temperature data loggers (MTL, Fig. 14; Pfender & Villinger, 2002). Five MTLs were attached at 0.7 m intervals to the strength member of the probe plus an additional one to monitor the water temperature above the weight stand.

Parameters of autonomous temperature data loggers:

Instruments:	1854144C, -147C, -161C (damaged), -162C (damaged), -165C (lost), -167C, -190C, -191C, -192C, -193C, -194C (damaged)
Sample rate:	1 sec
Recording length:	18:03 h potential maximum
Spacing:	0.7 m @ 0.78, 1.48, 2.18, 2.88, 3.58 m below the head

Measurements are made in so-called ‘pogo-style’, performing many penetrations in a row at small distances. Each penetration is carried out by raising the probe some hundred meters above the sea floor from the previous penetration, slowly moving the ship to the next penetration site, and letting the wire angle become nearly vertical before dropping the probe into the sediment for the next penetration. Once the probe is in the bottom, it is left undisturbed for 7 minutes to gain equilibrium temperature. For the penetration spacing used in this survey, transit between penetration points lasts about 20 – 45 minutes, a recording cycle in the sea floor is 7 minutes, yielding a rate of about 0.5 – 1 hour per penetration. Transit speed is governed by the trade-off between keeping the wire angle small and minimising the time between penetration points.

Fig. 13. Photograph of heat flow probe during P336.

Winch speed during payout and retrieval of wire is 0.8-1.2 m/s. The initial penetration velocity is generally 1.2 m/s. Total weight of the instrument is app. 600 kg. Deployment of the instrument is amid ship on the port side (Fig. 13), employing a beam crane and one assistance winch. This procedure ensures safe operation even during medium sea state and minimum interference due to the ships vertical movement during station work. On R/V *Poseidon* three deckhands are necessary during deployment and three during operation since the heavy-duty winch employs one operator and two deckhands for assisting smooth spooling. Control of bottom contact is solely by load plotter. The load signal is clearly identifiable as paid out cable is less than 1000 m and cable weight is moderate. Cable diameter is 13 mm.

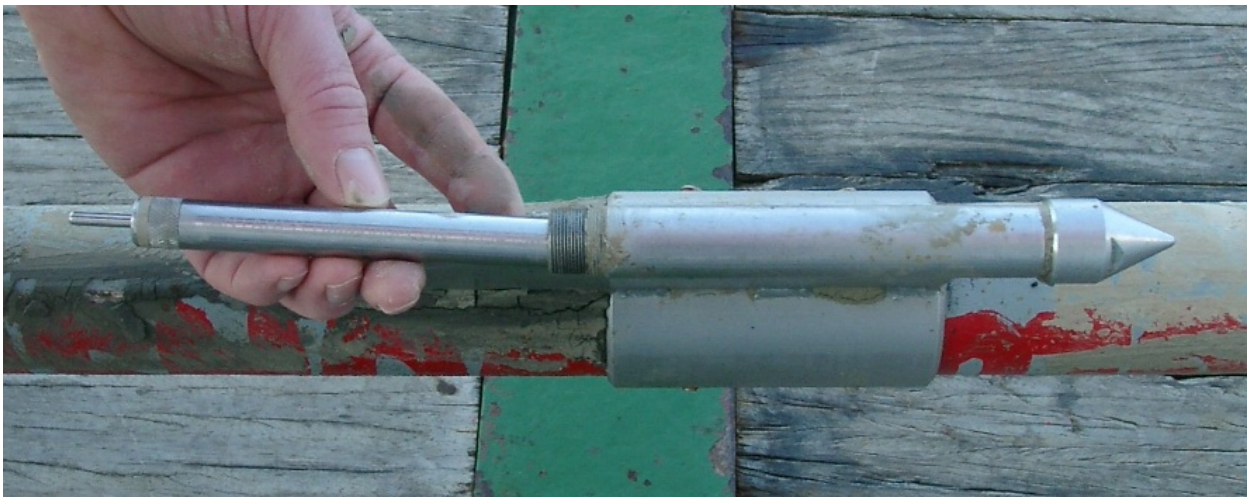


Fig. 14. Photograph of mini-temperature logger along the HF probe.

To achieve spatially high resolution of heat flow determinations, penetrations were usually positioned between 400 and 1000 m.

Heat flow data reduction

Processing temperature data includes calibration of thermistor sensors, calculation of sediment temperatures and temperature gradients, correction for probe tilt during penetration, and calculation of thermal conductivities when applicable. While the 7-minute wait is not long enough for the sediment temperatures to return to equilibrium after the frictional disturbance of penetration, it is long enough to extrapolate to an equilibrium temperature with a high degree of precision. Each temperature-time series, from each thermistor, is extrapolated to an equilibrium temperature by the program T2C (Hartmann & Villinger, 2002). Because the calibration of each thermistor by the manufacturer is only good to 0.1°C, a secondary calibration is applied. In this case it was performed in advance with reference to a high precision thermometer (Brancker) to an accuracy of better than 5 mK. Tilt angles and sediment conductivities were not measured during this survey. Recovered material from gravity corers allows determination of thermal conductivities *in vitro*.

Fourier's law of heat conduction in one-dimension shows that heat flow (Q) is the product of the thermal gradient (dT/dz) and thermal conductivity (k). If these terms are constant over the depth of the measurements then the calculation of heat flow is trivial. However if these values

are changing proportionately to each other, as is the case for a constant basal heat flux, then heat flow can be derived from Bullard's (1939) relation given by,

$$\Delta T = Q \; S \; \Delta z_i / k_i,$$

Where Δz_i is the thickness and k_i is the thermal conductivity over the i-th interval. In this case heat flow can easily be calculated as the slope of the line given by the summation. To properly calculate the temperature gradient a correction for the penetration tilt angle is applied. In most cases the tilt angle is less than 10° and the tilt correction is modest. Thermal conductivities are sensitive to the sediment porosity over the depth range of the measurements. Thermal conductivities are summarized as harmonic means.

5.6. CPT Testing

(S. Stegmann, A. Kopf)

On R/V *Poseidon* Cruise P336, we used two RCOM free-fall CPT probes. Cone Penetration Testing (CPT) is an effective method for *in situ* measurements of these geotechnical parameters with one instrument (Lunne et al., 1997). Two different marine CPT probes measure sedimentary strength (tip resistance, sleeve friction), pore pressure, tilt and acceleration. Both CPT systems rely on an industry 15 cm^2 piezo-cone with the sensors at the tip and a pressure housing containing a microprocessor at the top. In addition, deceleration and tilt are monitored for vertical profiling of the penetrated sediment column. The lightweight (40-170 kg), shallow water (200 m depth) lance works completely autonomous with a volatile memory and battery package. The sturdier, deeper water (currently 2500 m depth, anticipated 4000 m depth) system uses both power and telemetry for real-time data transmission from the research vessel (here: *Poseidon*), although spare batteries accommodate for limited use in autonomous mode. In detail, please refer to the two chapters below.

Instruments

The lightweight free-fall CPT (FF-CPT) instrument for shallow marine use consists of an industrial 15 cm^2 piezo-cone and a water-proof housing containing a microprocessor, volatile memory, battery, and accelerometer (Fig. 15; see also Stegmann et al., 2006). Strain gauges

inside the probe measure the cone resistance and sleeve friction by subtraction. A single pore pressure port (u_2) is equipped with an absolute 10 MPa pressure sensor. An inclinometer is used installed to monitor the penetration angle at +/-30° relative to vertical. An accelerometer provides information about the descent velocities and deceleration behaviour of the instrument upon penetration. It enables to calculate penetration depth during multiple deployments by integration. The aluminium pressure housing tolerates 2 MPa confining pressure (ca. 200 m water depth) and hosts the power supply and microprocessor. Frequency of data acquisition is variable, and has usually been set to 40 Hz during our tests. Binary data are temporarily stored on a Micro Flash Card and then downloaded to a PC. The two non-volatile battery packs available provide performance times of about six and twelve hours, respectively. The length of the lance may be varied from 1.5 m to a max. 6.5 m depending on what type of sediment is anticipated. The extension is accomplished by adding 1-m-long metal rods and internal extension data/power cables within them. The weight of the instrument thus ranges from ca. 45 kg to max. 110 kg. If deep penetration is desired, modular weight pieces (15 kg each) can be mounted to the pressure housing at the top of the instrument, then reaching a max. 170 kg. The instrument is deployed pogo-style and remains in the seafloor for about 5-10 minutes for individual measurements.

Fig. 15. Shallow water FF-CPT

The deep-water CPT probe (short DW-CPT) is a sturdier version of the shallow water (short SW) FF-CPT. It has a length of 380 cm with a standard 15 cm^2 piezo-cone with strain gauges inside the probe measure the cone resistance and sleeve friction by subtraction (Fig. 16). Like the SW-CPT, it contains an accelerometer, tilt meter, and a microcontroller. Pore pressure ports at the cone (u_1) and ca. 80 cm above the cone (u_3) are connected to Validyne DP215 differential pressure transducers via stainless steel tubing. Pore pressure changes can be monitored over a range of 100 kPa with a resolution of ca. 10 Pa; the sensors are protected with valves if high

excess pore pressures are met. They are further used to bleed the tubing in case of gas is trapped inside, especially during the initial phase of deployment when the instrument is lowered through the water column.

Fig. 16. Deep water FF-CPT after deployment with ca. 70 cm penetration

The DW-CPT may be used in autonomous mode, where two batteries power a microcontroller, the sensors, and valves. In addition, it can be run with a Seabird Electronics (SBE36) telemetric system so that depth, tilt of the probe, and information from all sensors can be monitored on board the vessel. The SBE36 system with PDIM deck unit is schematically shown in Figure 17. It provides power and real-time data acquisition as well as control of the instrument via a attached PC with custom-programmed LabView control software. During P336, we used the DW-CPT with the telemetry control.

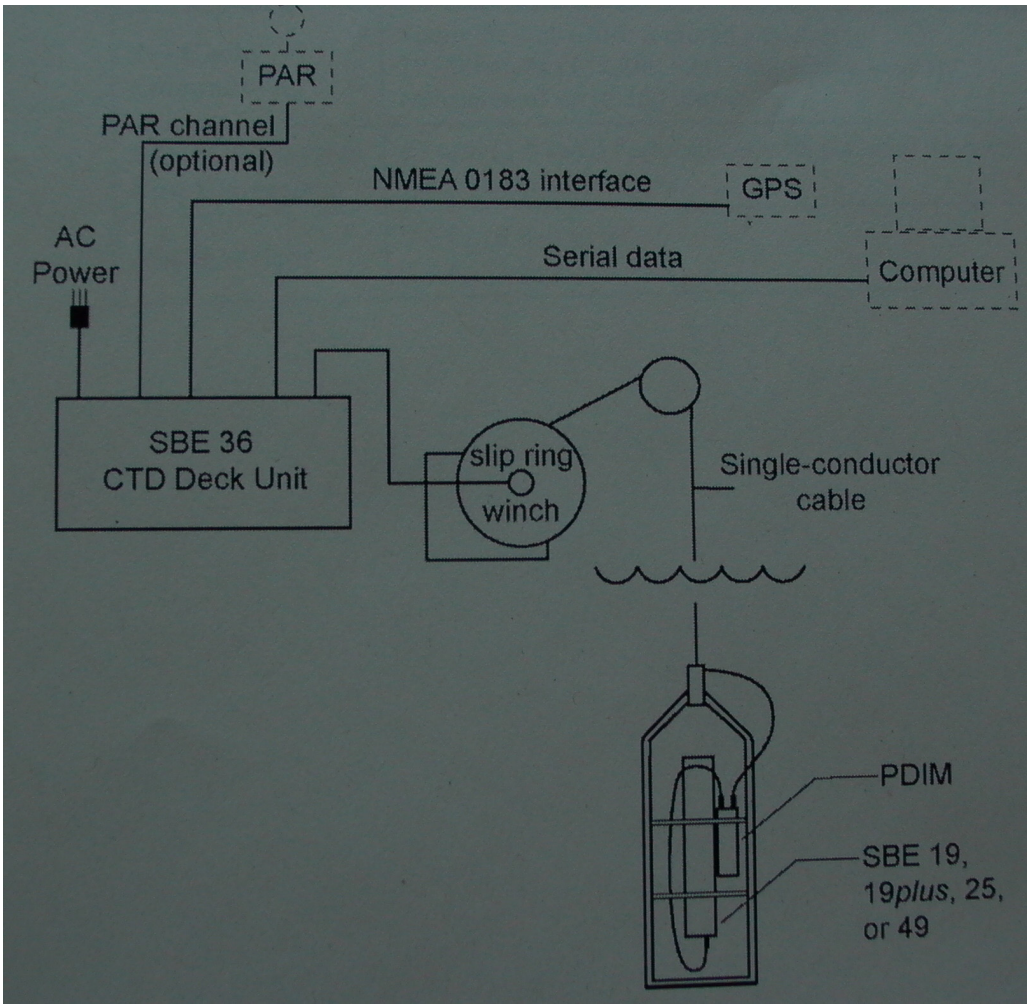


Fig. 17. Schematic of SBE36 and PDIM telemetric unit.

5.7. Gravity coring and sediment description

(M. Strasser, R. Schäfer, T. Alves)

In order to recover longer sediment cores, a gravity corer with tube lengths of alternatively 3 m, 4 m, or 6 m and a weight of approximately 1.6 tons was used (Fig. 18). Before using the coring tools, the plastic liners inside the steel tubes have been marked lengthwise with a straight line in order to retain the orientation of the core for subsequent paleomagnetic analyses.

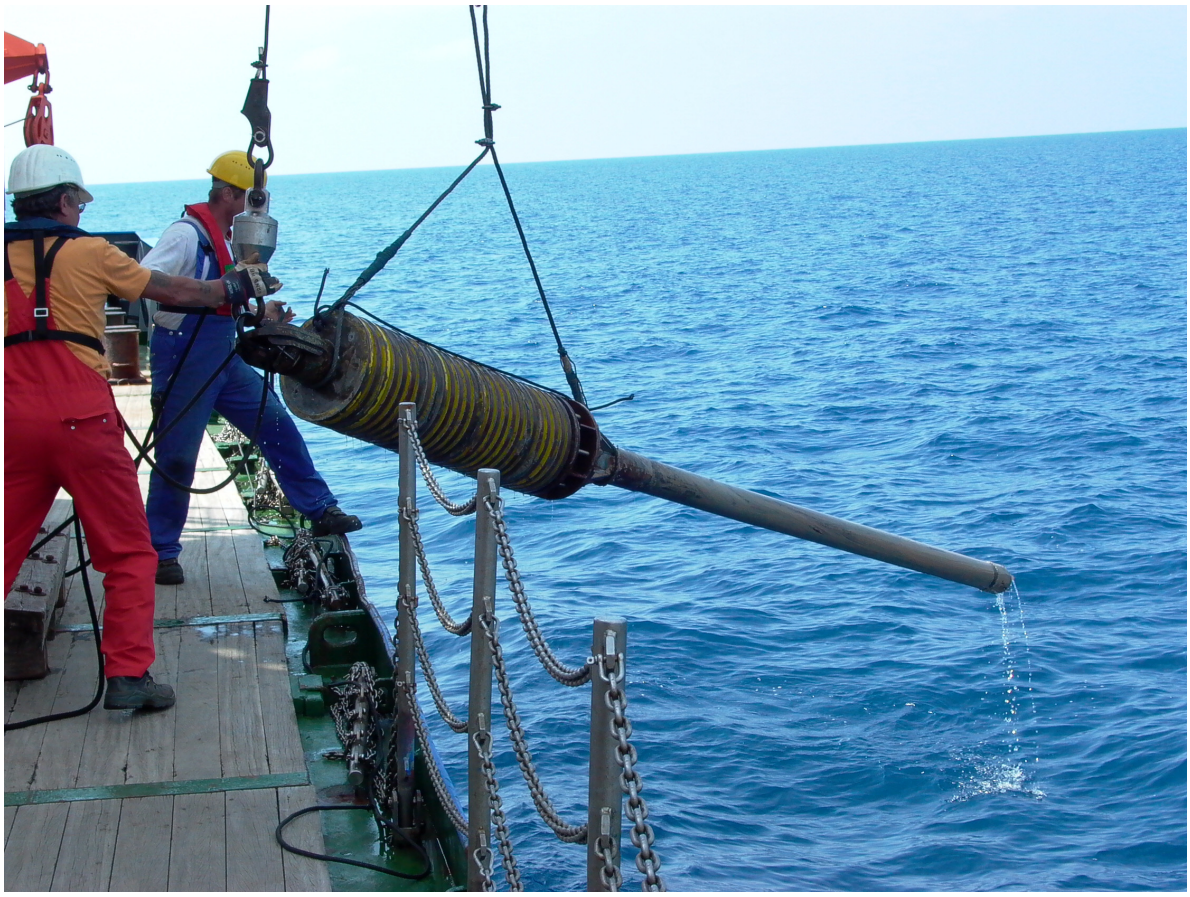


Fig. 18. Gravity corer (4 m length) recovered during P336.

Once on board, the sediment core was cut into 1 m sections, closed with caps on both ends and labelled according to a standard scheme (Fig. 19). By definition, the half core with the marked line was stored as archive half, while description, sampling, etc. was carried out on the remaining half.

Sediment description and smear slide petrography

Split gravity cores were photographed and described from a largely sedimentological standpoint. Grain size and composition of sediments were determined mainly visually using a simple hand-lens, HCl-testing and analyzing smear slides of dominant lithologies under a cross-polarizing microscope in accordance with Rothwell (1989). The size of grains was assessed based on Wenthworth's (1922) classification. The colour of the material was determined visually on board, but will be studied spectrophotometrically after the cruise on the Multi-Sensor Core Logger (MSCL).

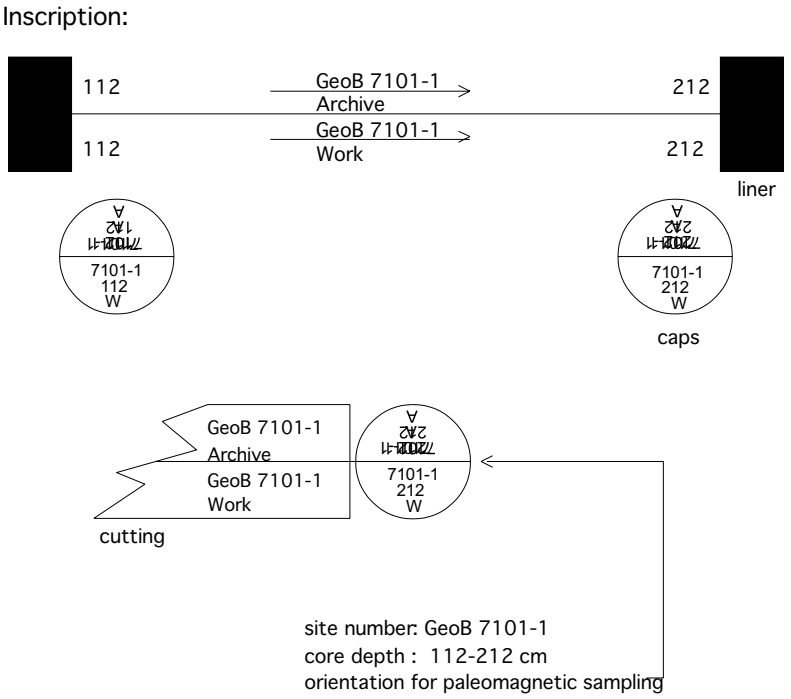


Fig. 19. Scheme of the inscription of gravity core segments used during P336.

For each core a composite one page core log sheet was compiled. It shows core photographs next to a graphical core log and gives information on redeposition-/event layers (i.e., sand layers, volcanic ash layers or clear evidences for mass movement deposits, such as mud clasts in muddy or sandy matrix, tilted beds and repetition of strata), bioturbation and the assigned lithological units in three different columns. The core log is combined with results from the fall cone penetration test (see below). A wide variety of features, such as sediment lithology, primary sedimentary structures, bioturbation, soft-sediment deformation, and coring disturbance is indicated by patterns and symbols in the graphic logs. A key to the full set of patterns and symbols used on the barrel sheets is shown in Figure 20. The symbols are schematic, but they are placed as close as possible to their proper stratigraphic position. All core descriptions are provided in the Appendix.

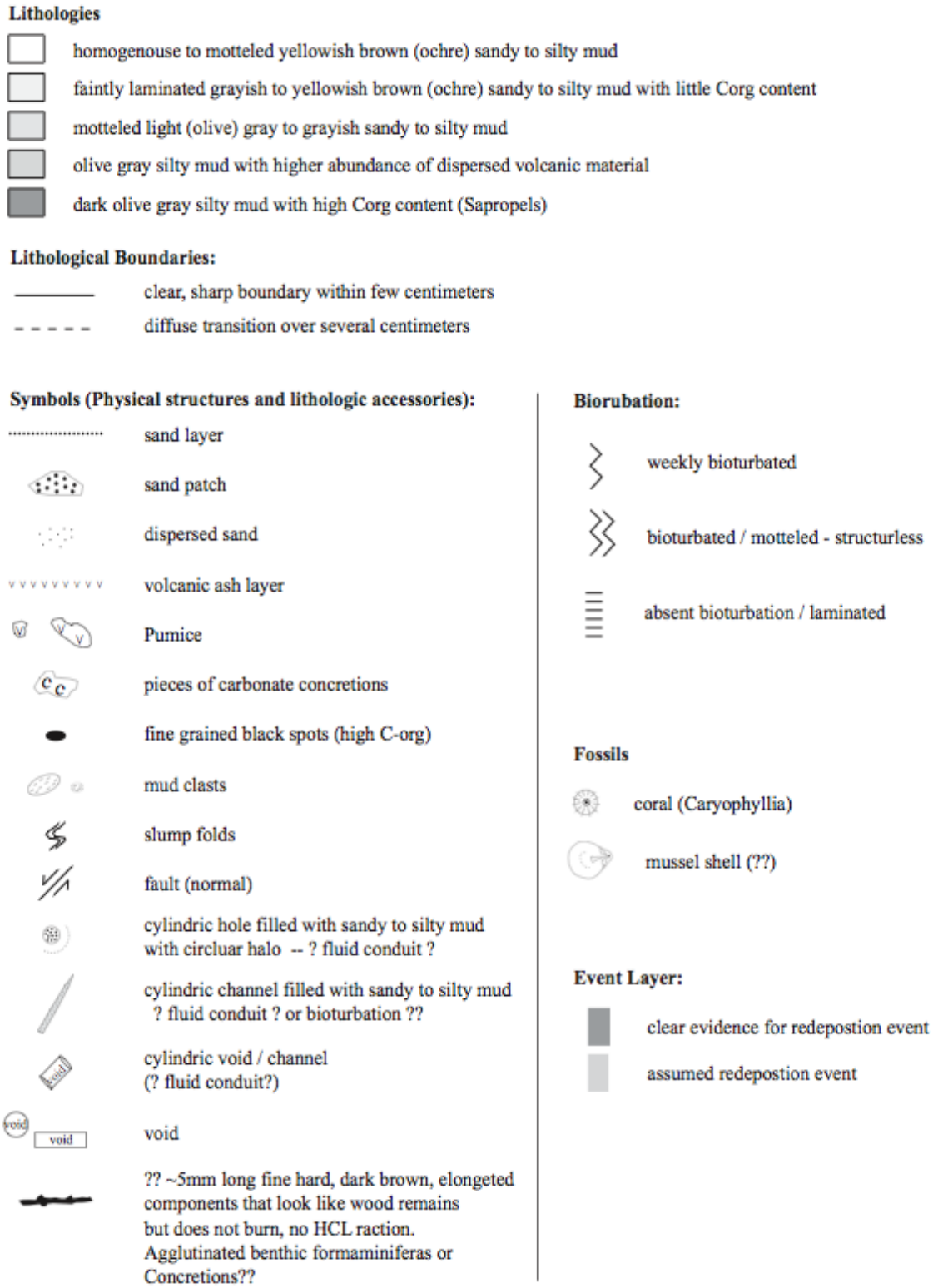


Fig. 20. Key of symbols for barrel sheets of gravity core description.

5.8. Physical properties

(M. Strasser, M. Irving, S. Stegmann, A. Kopf)

During cruise P336, shipboard physical properties measurements were restricted to falling cone penetration tests on the working half of the core. Since no container with a Multi-Sensor Core Logger (MSCL) could be placed on board RV Poseidon, these measurements on the undisturbed archive half of the cores were carried out immediately after the cruise at RCOM Bremen. A description of the instrument is given below.

Cone penetrometer

The geotechnical properties along the sediment cores were determined according to British Standards Institutions (BS1377, 1975). A Wykeham-Farrance cone penetrometer WF 21600 (Fig. 21) was used for a first-order estimate of the sediment's stiffness. For the measurement, the metal cone was brought to a point exactly on the split core face. A manual displacement transducer was then used to measure the distance prior to and after release of the cone (i.e. penetration after free fall of the cone). Precision is 0.1 mm of displacement. The distances measured can then be translated into sediment strength (see Hansbo, 1957, and below).

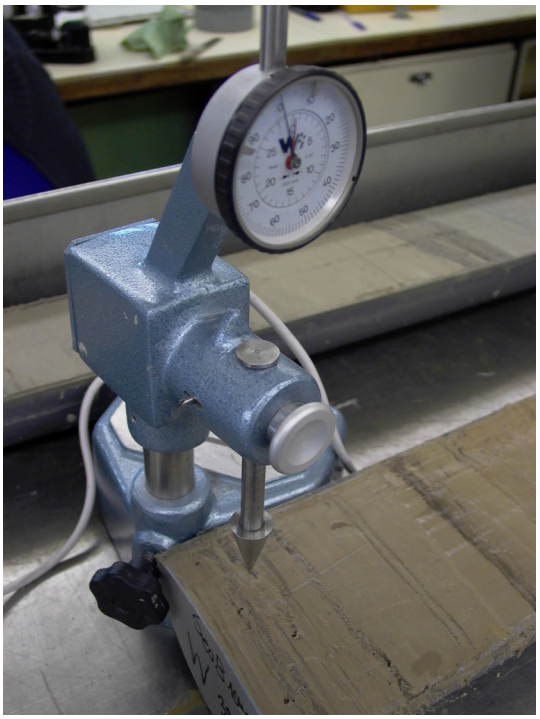


Fig. 21. Falling cone penetrometer used on the split core surface.

The falling cone penetrometer with its defined weight (80.51 g) and geometry (30° cone) was used by Hansbo (1957) made a detailed study of the relationship between the cone penetration and soil strength. The undrained shear strength c_u can be calculated from the variables mass and tip angle of the falling cone, gravity *g*, penetration depth *d* and the cone factor *k* via the "cone factor". Wood (1985) calculated from fall-cone and miniature vane tests average values of cone factors (in our case k=0,85 for a 30° cone). The undrained shear strength can then be calculated using the equation $c_u = (k*m*g)/d^2$.

Shore-based laboratory testing will include vane shear experiments as well as ring shear tests to obtain residual strength and rate-dependent frictional properties of the materials recovered.

Multi-sensor core logger

The *GEOTEK* MSCL device at RCOM Bremen combines three sensors on an automated track (see schematic diagram in Fig. 22). The P-wave velocity, gamma ray attenuation (bulk density), and the magnetic susceptibility were recorded, and from this data the fractional porosity and impedance were calculated. RGB images were also produced with a full color digital line scan imaging system. Magnetic susceptibility, bulk density, and line scan photography were generally measured on all cores.

Magnetic Susceptibility

Magnetic susceptibility was measured with a Bartington point sensor MS2 using an 80-mm internal diameter sensor loop (88-mm coil diameter) operating at a frequency of 565 Hz and an alternating field of 80 A/m (0.1 mT). The sensitivity range was set to the low sensitivity setting (1.0 Hz). The sample period and interval were set to 2 s and 4 cm, respectively, unless noted otherwise. The mean raw value of the measurements was calculated and stored automatically. The quality of these results degrades in XCB and RCB cores, where the core may be undersized and/or disturbed. Nevertheless, general down-hole trends are useful for stratigraphic correlations. The MS2 meter measures relative susceptibilities, which have not been corrected for the differences between core and coil diameters.

Gamma-Ray Attenuation

Bulk density was estimated for split core sections as they passed through the GRA bulk densiometer using sampling periods and intervals of 2 s and 4 cm, respectively, unless noted otherwise. A thin gamma beam from a Caesium-137 source with energies around 0.662 MeV is

passed through the core and the relative intensity of this beam can be used to measure the gamma density. These photons are scattered by electrons in the core and loose some of their energy.

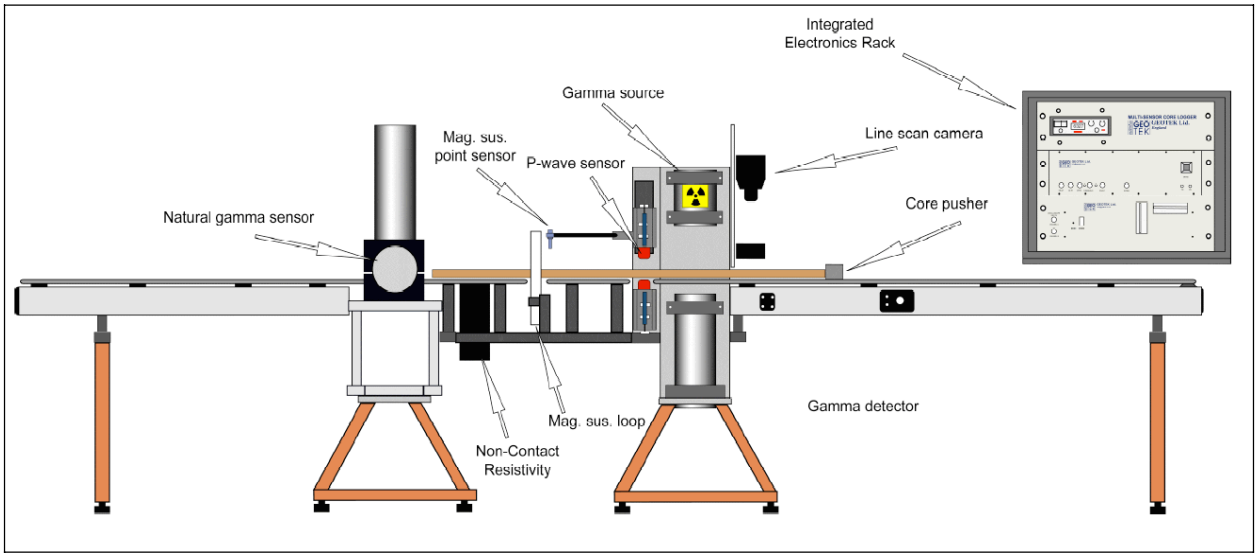


Fig. 22. Schematic of the Geotek Multi Sensor Core Logger (MSCL)

To determine the gamma density the number of unscattered electrons is measured by counting photons with the same principle energy as the photon source. The gamma density of an aluminum billet of stepped thickness is used to obtain calibration equations to convert gamma density into actual density values.

P-Wave Velocity

The P-wave velocity is measured at 4 cm intervals and 2 s periods using two PWL transducers. The PWL measured P-wave velocity across the unsplit core sections. In order to determine the P-wave velocity, the PWL transmits 500-kHz P-wave pulses through the core at a frequency of 1 kHz. The transmitting and receiving transducers are aligned perpendicular to the core axis while a pair of displacement transducers monitors the separation between the P-wave transducers. Variations in the outer diameter of the liner do not degrade the accuracy of the velocities, but the unconsolidated sediment or rock core must completely fill the liner for the PWL to provide accurate results. During this measurement good acoustic coupling between the core liner and transducer is achieved by adding water to the contact points.

6. Preliminary Results

6.1. Multibeam Swathmapping

(I. Kock, M. Reichelt)

Multibeam bathymetry was gridded with the processing software HDPPOST from ELAC, which was installed onboard. Raw, unprocessed data is illustrated in Fig. 24.

Depth in the covered area ranges from 250m - 2800m below sea level. In the deeper parts of the Heraklion and Kamilonisi basins, the bathymetric chart delivered no indications of larger landslide phenomena. A curious feature in this part of the study area is the so-called 'horseshoe' structure at 35°54'N, 25°06'E (study area B; Fig. 23).

During the completion of several overview tracks, we discovered several features further along upslope, in the direction of the Cretan coast. We interpreted one large structure (study area D, Figs. 23, 24; around 35°30'N, 25°54'E to 34°54'N, 26°06'E) as one or more large slide scars. A smaller feature (Figs. 23, 24; 34°54'N, 25°36'E) may either be a slide scar or part of a canyon.

In total, multibeam bathymetry covered approximately 2450 km^2, where about ~300 km^2 are part of the 'Horseshoe' structure.

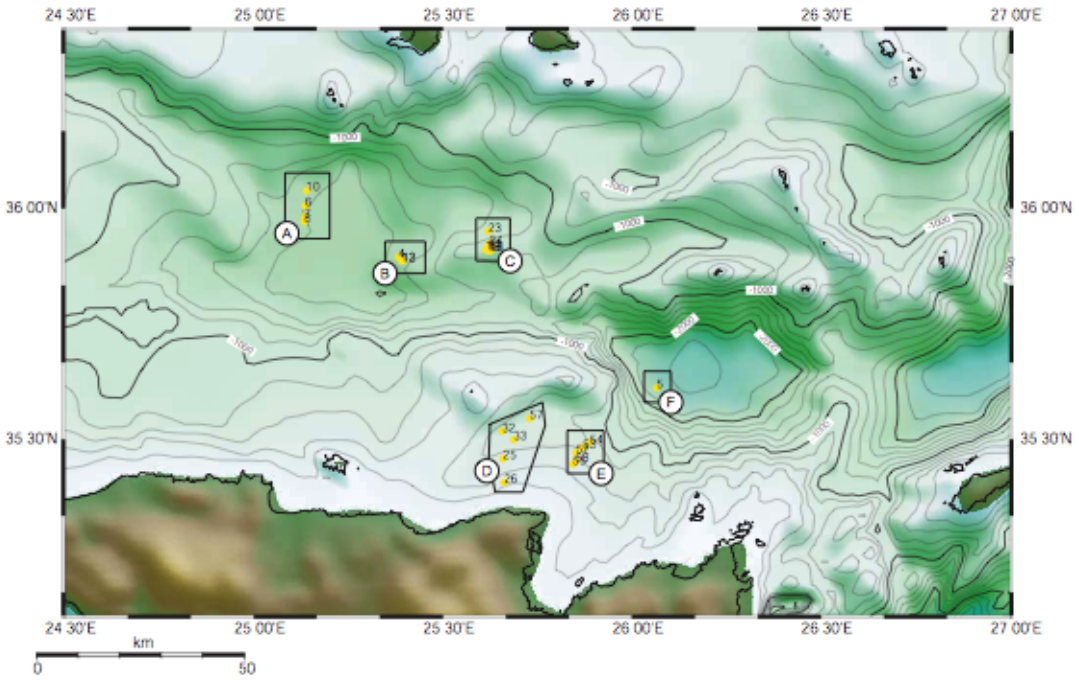


Fig. 23. Map of the research area of cruise P336 showing the main areas of interest, i.e. study areas A-F.

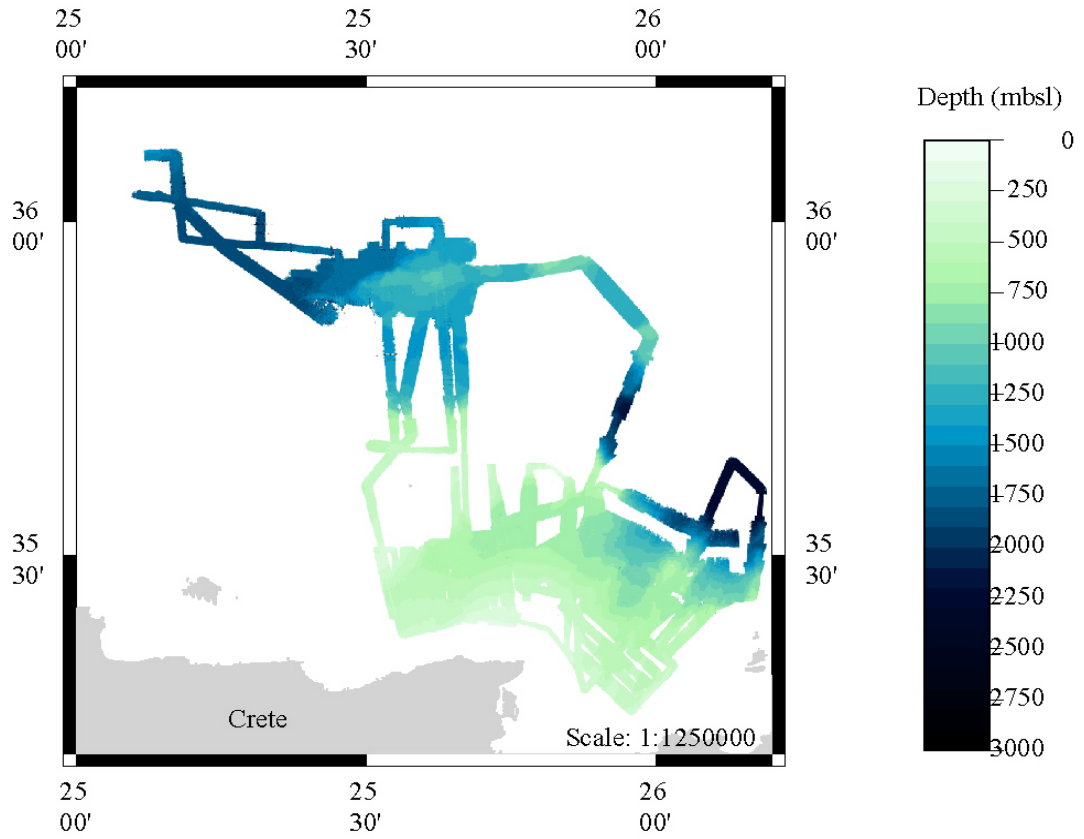


Fig. 24. Multibeam map of the study area illustrating the cover achieved during cruise P336.

6.2. Water Sound Velocity (CTD)

(S. Stegmann, A. Kopf)

Only one CTD profile was run at the beginning of the cruise (see station list, Appendix). Data served to calibrate the Multibeam and other geophysical acquisition systems. The only crucial information gathered was the bottom water temperature, which serves to tie in the heat flow measurements (Ch. 6.5 below). Temperature was found to be stable at values around 14.5°C. Since all the other data are not meaningful with respect to the objectives of cruise P336 *CRESTS*, they are not presented here.

6.3. 3.5 kHz profiling

(S. Krastel-Gudegast, I. Kock, M. Reichelt, M. Strasser, M. Thölen)

Owing to problems with digitizing the 3.5 kHz data on board, we can only present a few examples of the 3.5 kHz data collected during *CRESTS*. All data are reprocessed at the moment and will be available in digital form in due time.

Figure 25 shows a typical example of 3.5 kHz data in Working Area A (see also section 6.7). The 3.5 kHz data image a complex pattern of individual transparent units, which are characteristic for slide masses. The seafloor is characterized by a smooth surface except for a block at the northern end of the profile, which shows a hummocky surface (Fig. 25). The up to 7 m thick block itself is characterized by internal transparency. The hummocky surface in combination with internal transparency suggests that this block is a slide block. It seems that the uppermost transparent unit (Unit 1) pinches out at the edge of the slide block. The stratigraphic relationship between Unit 1 and the slide block, however, remains unclear. The block might belong to the uppermost Unit 1, but it also might represent an individual slide block. The thickness of Unit 1 varies between 1 m and 8 m. Unit 1 does not show any internal structures but acoustic transparency. Such a pattern is typical for a debrite though it might represent very homogenous hemipelagic sediments as well. Unit 1 is underlain by a second transparent package, which is imaged in the central part of the presented profile (Fig. 25). This unit shows very similar patterns as Unit 1, i.e. acoustic transparency without any internal structures. Two more transparent units are visible in the central part of the profile.

The overall seismic pattern suggests that we have stacked individual slide units building a slide complex. The presented profile (Fig. 25) is located at the deepest part of the basin north of Crete. This area serves as depositional center for submarine slides from the Cretan margin as well as from the volcanic island arc to the North.

Gravity cores taken across the slide complex aimed in coring different slide units. Penetration of all cores taken in this area was unfortunately very low (<50 cm). The cores do not show clear indications for redeposited material, but due to the limited resolution of the 3.5 kHz system, it is not possible to image thin (<50 cm) layers. An undisturbed drape of ~50 cm thickness on top of the transparent Unit 1 would not be detected by the 3.5 kHz system. Therefore the cored material might not be representative for the transparent units seen on the 3.5 kHz data.

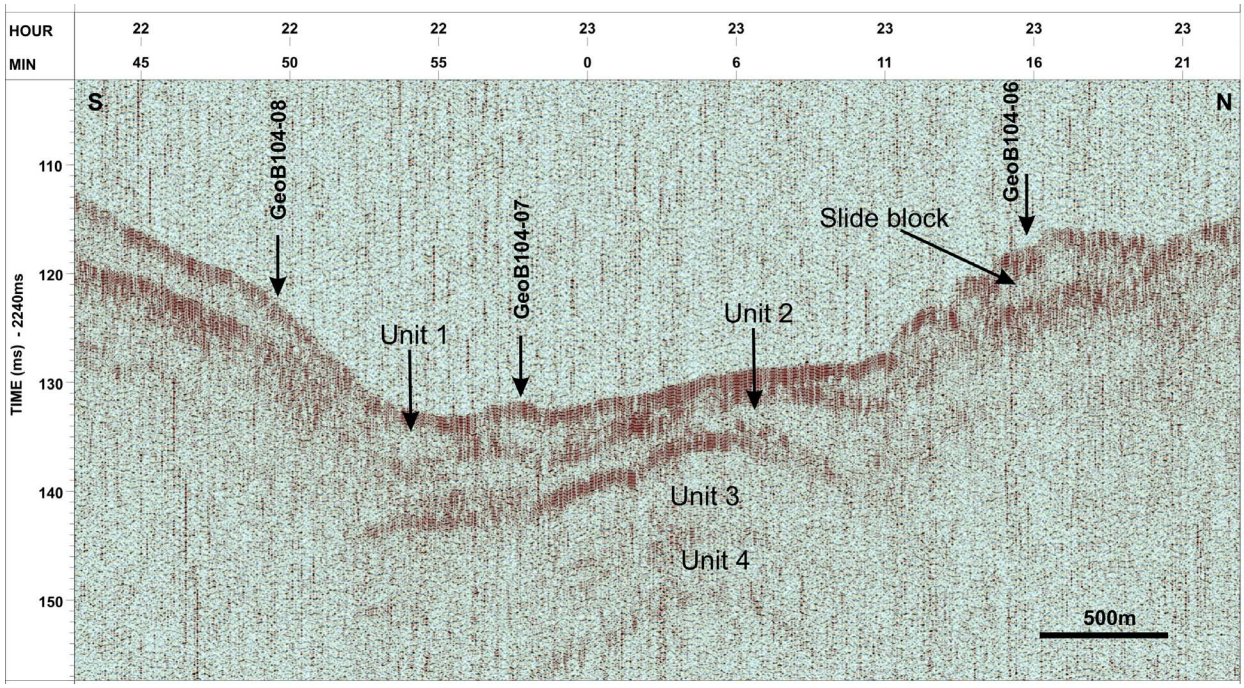


Fig. 25. 3.5 kHz profile crossing a slide complex in the basin north of Crete. Note that the profile is collected with a delay of 2240 ms. See Figure 31 for location.

Figure 26 shows an example of a 3.5 kHz profile collected on the margin north of Crete. The western part of the profile is characterized by overlapping hyperbolas, which are caused by a hummocky seafloor. Due to the large opening angle of a conventional 3.5 kHz echo sounder, closely spaced individual blocks on the seafloor are imaged as overlapping hyperbolas. In contrast the eastern part of the profile shows a very smooth seafloor with several very continuous, parallel sub-seafloor reflections (Fig. 26). The boundary between the hummocky and very smooth seafloor is very sharp. The western part of the profile represents undisturbed hemipelagic sediments. Penetration of the signal is up to 30 m. No sub-seafloor reflectors are imaged at the western part of the profile (Fig. 26). The hummocky terrain represents the surface of a major slide event. Owing to the limited vertical and horizontal resolution of the 3.5 kHz system resulting in overlapping hyperbolas it is not possible to visualize thin (<50 cm) drapes, which might be present on top of the hummock seafloor.

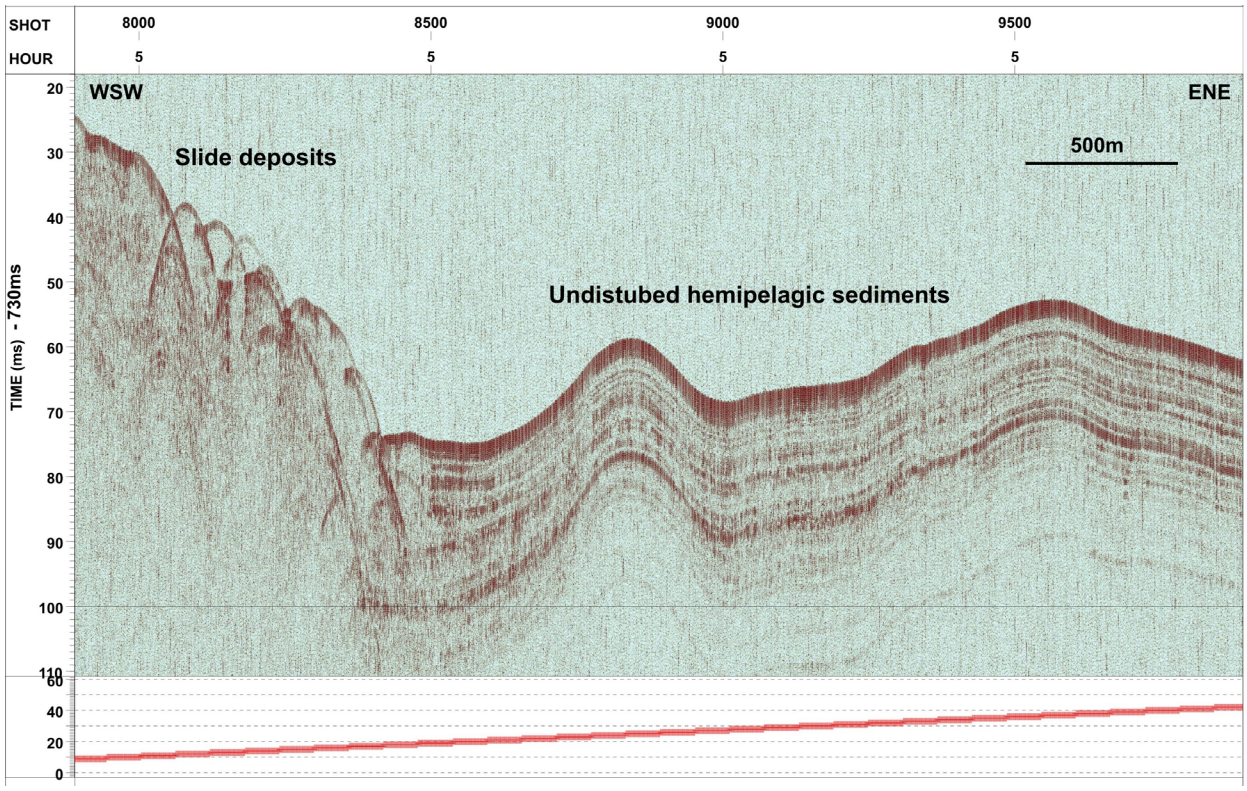


Fig. 26. 3.5 kHz crossing the edge of a slide on the margin north of Crete. Note that the profile is collected with a delay of 730 ms. See Figure 35 for location.

6.4. Seismic reflection profiling

(S. Krastel-Gudegast, N. Kaul, B. Heesemann, I. Kock, M. Reichelt, M. Thölen)

In total almost 1400 km of seismic lines were collected in the Cretan Sea during P336 (Fig. 27). Some typical examples are presented in the following section.

Profile GeoB06-129 crosses the basin north of Crete. A part of the profile is presented in Figure 28. A strong blocky reflector represents the acoustic basement. The seismic section can easily be separated in two major sedimentary units. The upper unit is characterised by continuous parallel reflectors with variable amplitude. The maximum thickness of this unit (almost 400 ms TWT, ~300 m) is found in the central part of the basin. The seismic pattern suggests generally undisturbed deposition of hemipelagic sediments. The higher resolution 3.5 kHz data, however, show local slide deposits in the basin (see Ch. 6.3, Fig. 25)

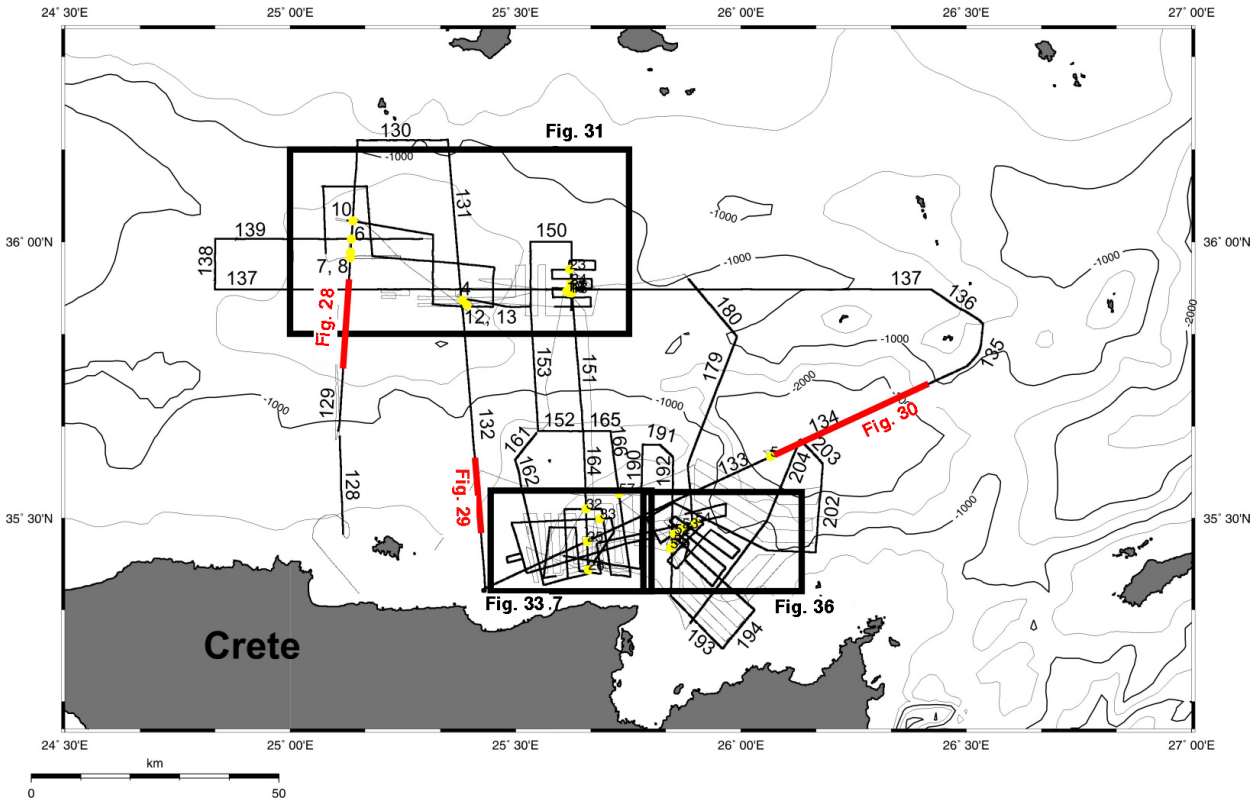


Fig. 27. Profile Plan of the seismic survey in the Cretan Sea during cruise P336.

A major depositional unconformity separates the upper unit from a lower sedimentary unit. The sediments of the upper unit show onlapping onto a strong continuous reflector of the lower unit. The lower unit shows weaker amplitudes compared to the upper unit. The sub-parallel reflectors of the lower unit have a good to moderate continuity and show an undulating pattern. The undulating pattern indicates that this unit was tectonically deformed. However, the stress is not acting in present times because the reflectors of the upper unit are horizontally layered and not deformed.

The slope north of Crete also shows a very pronounced subdivision into two sedimentary units (Fig. 28). The upper unit is again characterized by very continuous well stratified high amplitude reflectors.

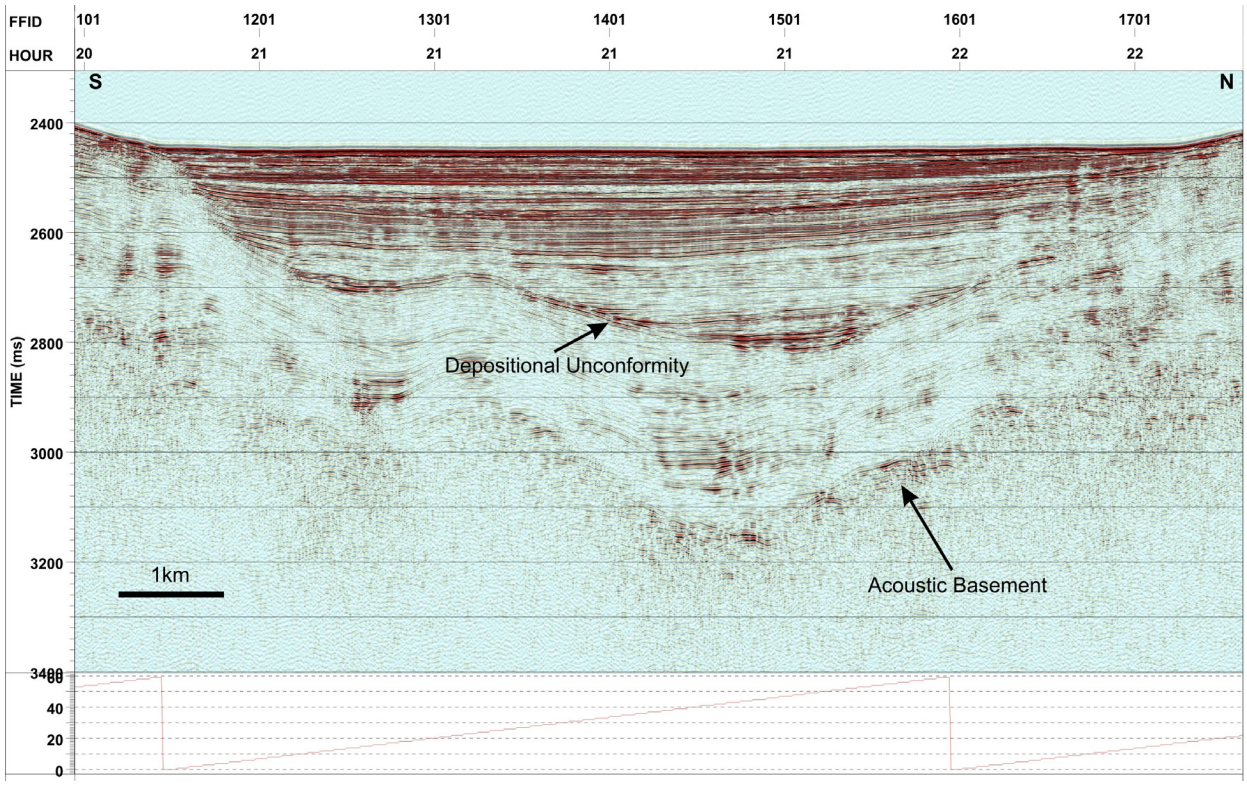


Fig. 28. Brute stack of a part of Profile GeoB06-129 crossing a sedimentary basin north of Crete. See Figure 27 for location.

A very pronounced erosional unconformity separates the upper from the lower unit. The thickness of the lower unit is up to 250 m. The lower unit shows folded and faulted sub-parallel reflectors at the southern end of the profile. None of the faults reaches up to the upper sedimentary unit. In the central part of the profile the lower unit shows only weak reflectors which have a patchy structure. Some faults can be seen at the northern end of the profile. The strongly deformed sediment body with weak patchy reflectors might represent a major slump deposit but the folded and faulted sediments next to the almost transparent sediment body suggests that the internal structure is destroyed as a result of tectonic deformation.

It is interesting to note that profiles in the basin (Fig. 28) and on the middle slope (Fig. 29) north of Crete both show a deformed lower unit and a well stratified upper unit. This pattern shows that the lower unit was tectonically deformed during and after its deposition. The tectonics probably also caused large vertical movements causing a major hiatus which is documented as unconformities in the seismic sections. Following this hiatus, the upper unit was deposited, which consists of undisturbed hemipelagic sediments. No indication for major tectonic deformation is found in the upper sedimentary unit.

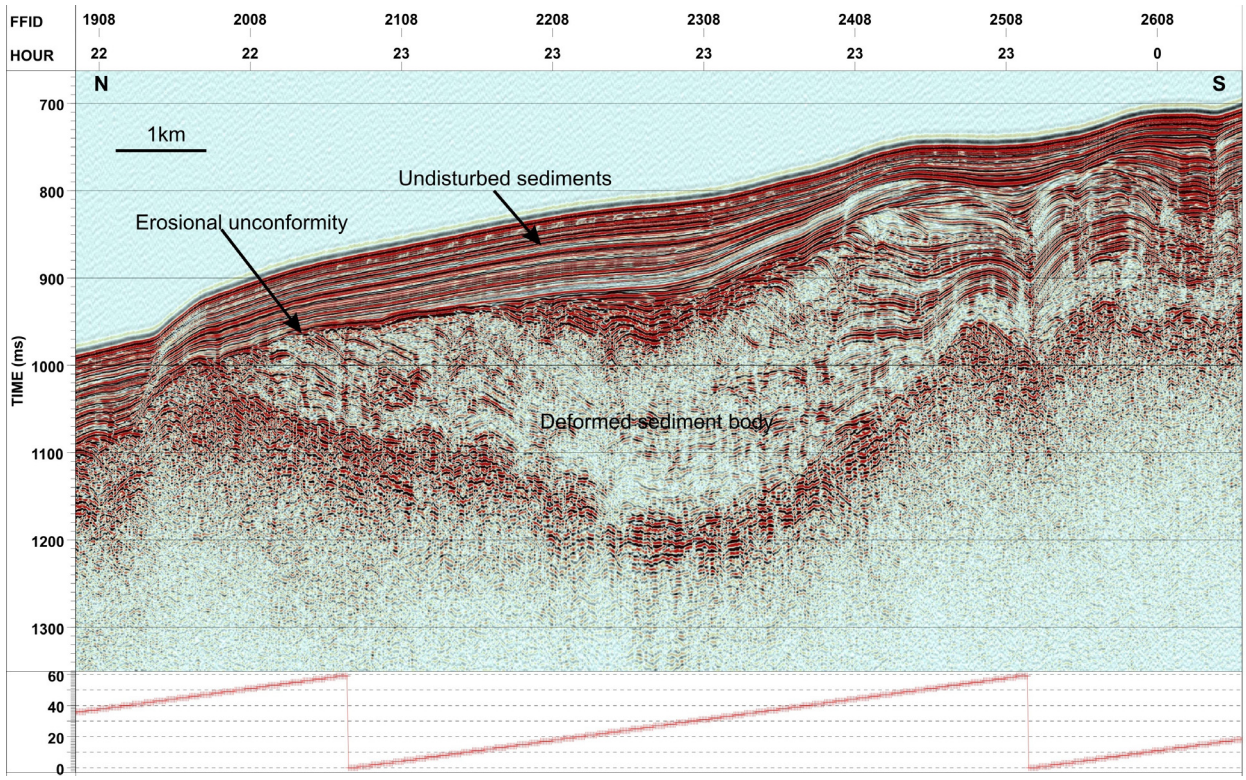


Fig. 29. Brute stack of a part of Profile GeoB06-132 crossing the middle slope north of Crete. See Figure 27 for location.

A different picture shows Profile GeoB06-134, which crosses the almost circular basin in the easternmost survey area (Fig. 30). The depth of the so called Kamilonisi basin is ~2250 m, which is significantly deeper than the Heraklion basin described above (Fig. 28). The basin fill is characterized by packages of high amplitude reflectors, which are separated by thin transparent layers. These thin transparent units probably represent slide deposits, while the hemipelagic background sediments are imaged as strong relatively continuous reflectors. The very steep flanks show numerous indications for slides and slumps. Some of these slides and slumps (and probably also slides and slumps from further upslope) reach the basin floor. Several faults can be identified in the basin. The fault offset generally decreases with decreasing sediment depth and none of these faults seem to reach to the sea floor. The basin itself is bounded by major faults.

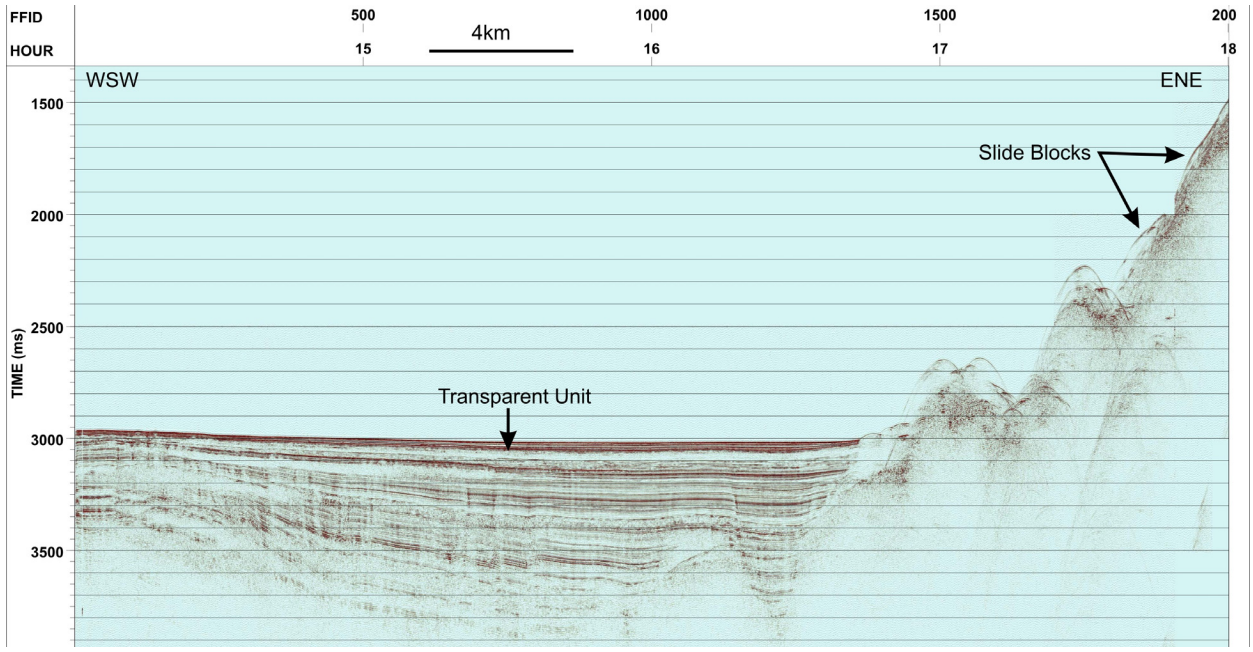


Fig. 30. Brute stack of a part of Profile GeoB06-134 crossing The Kamilonisi basin in the western survey area. See Figure 27 for location.

Three areas were survey in detail during the cruise: A horseshoe-like structure (study area B; see Figs. 23, 31), and two slide areas on the northern margin of Crete (study areas D and E; see Figs. 23, 33, 6.4.10).

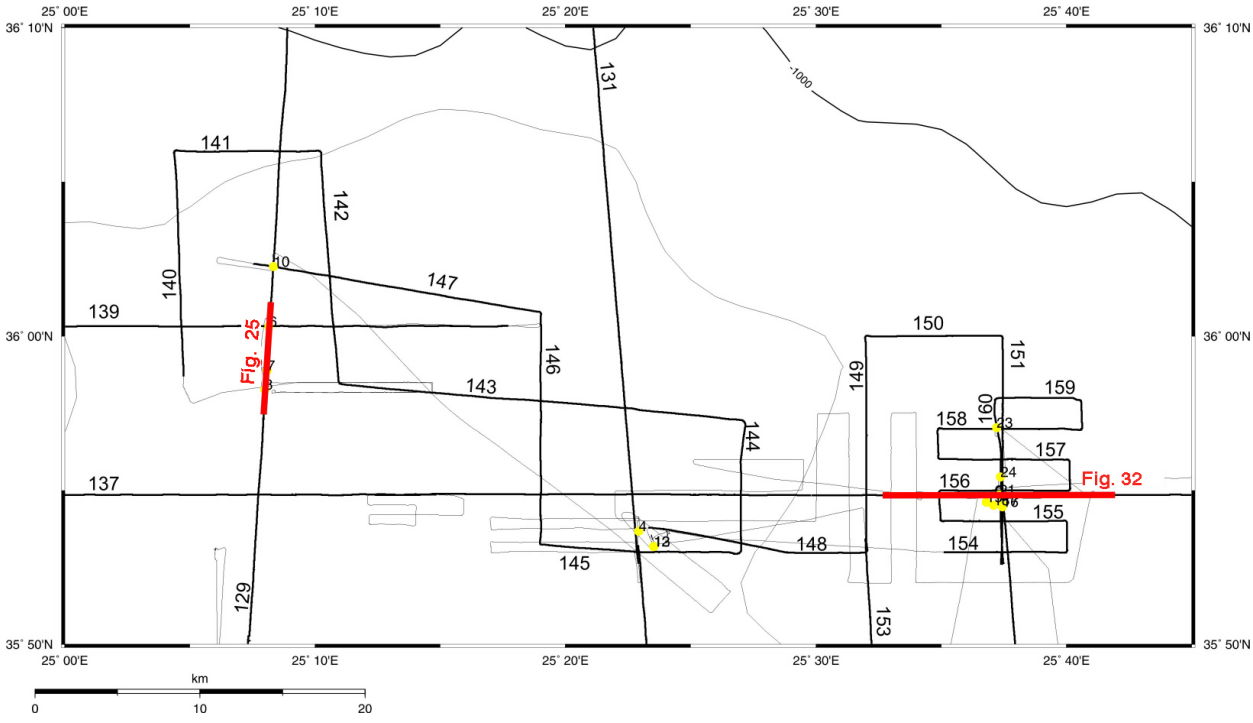


Fig. 31. Track chart of the Horseshoe structure.

A seismic profile crossing the Horseshoe structure is shown in Figure 32. Most of the profile is characterised by parallel wavy reflectors with a good continuity. A 6 km broad elevated area is seen in the centre of the profile. The elevated area dips to the east and is bounded by a steep eastern flank and a gently dipping western flank. Both flanks are ~150 m high and seem to coincidence with major faults. Several additional small offset faults are imaged at the western end of the profile. In the centre of the broad elevated area, a mound-like structure sticks out of the sea floor. On this profile the mound like structure has a diameter of ~600 m and a height of ~75 m. The bathymetric data, however, show that the mound is not circular but a curved elongated feature, which has a horseshoe-like geometry. The area beneath the mound-like structure shows an acoustic transparent zone with a diameter similar to the mound like structure. There are several possible explanations for the acoustic transparency. A hard seafloor and the steep morphology might scatter the energy at the seafloor and we are just not able to get enough energy into the subsurface for imaging the internal structure of mound like structure. The transparent zone, however, widens to the east with increasing depth, while the western boundary is almost vertical. If the observed acoustic transparency is caused by strong scattering at the seafloor only, one would expect near vertical boundaries on both sides. Hence this explanation is unlikely. Other explanations are very homogenous material without major impedance contrasts (e.g., mud) or strong signal attenuation due to the presence of free gas. From the seismic data alone we are not able to distinguish between these two possibilities, but both explanations suggest upward migration of fluids or gas from depth. This explanation is supported by higher heat flow values measured on top of the structure during the cruise (see Ch. 6.5). Similar features in the Mediterranean Sea and in the Black Sea have been identified as mud volcanoes or mounds. Cores taken in this area, however, do not show any indications for mud flows (see Ch. 6.7 below); therefore it is unlikely that this feature is a young mud volcano. The shape of the horseshoe like structure (see Ch. 6.1 above) and its large dimension is also atypical compared to other mound structures in the Mediterranean and Black Sea. An explanation of this horseshoe like structure needs to wait until all available data are processed and analysed.

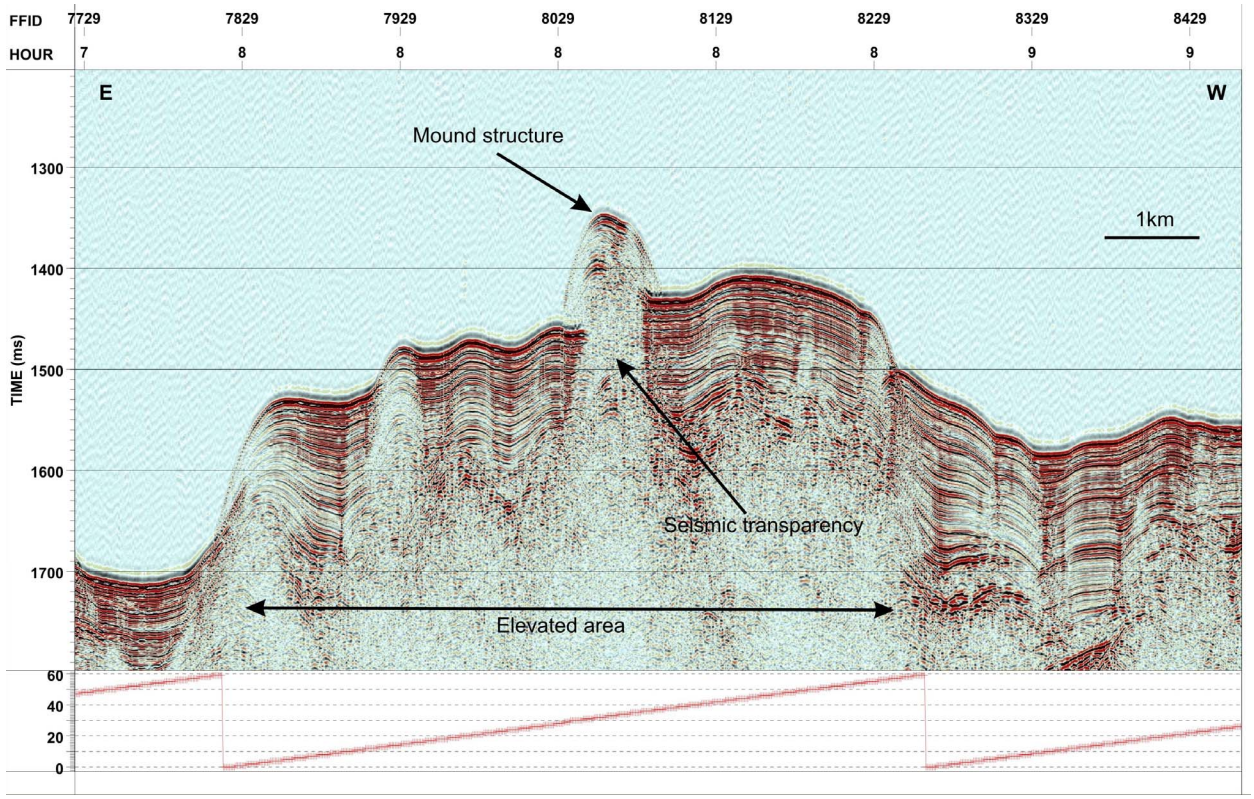


Fig. 32. Brute stack of a part of Profile GeoB06-137 crossing the Horseshoe structure. Note that the profile is plotted in reverse direction. See Figure 31 for location.

A major slide was identified on the northern margin of Crete. Profile GeoB06-164 (Fig. 34) crosses this slide structure in a South-North direction. The northernmost part of the profile is characterized by well-stratified, undisturbed sediments. A major change of the seismic facies is seen around FFID 2650. A lens shaped body with a maximum thickness of almost 100 m extends for ~5 km up to FFID 2950. The internal structure of the lens shaped body shows a chaotic seismic facies, which is characteristic for slide deposits (study area D). No obvious headwall can be identified in the seismic data, but at the head of the slide the upper 20 m of sediments are missing and incorporated into the slide. The surface of slide is the relatively smooth. A strong very continuous reflector marks the base of the slide. The occurrence of some intact structures in the generally chaotic seismic facies of the slides suggests that the internal structure has not been totally destroyed and that the slide has not travelled very far. In the seismic data we do not see a hemipelagic drape on top of the slide deposits. Due to the limited resolution of the seismic system, thin drapes (<5 m), however, cannot be detected. Hence it is difficult to determine the age of the slide event.

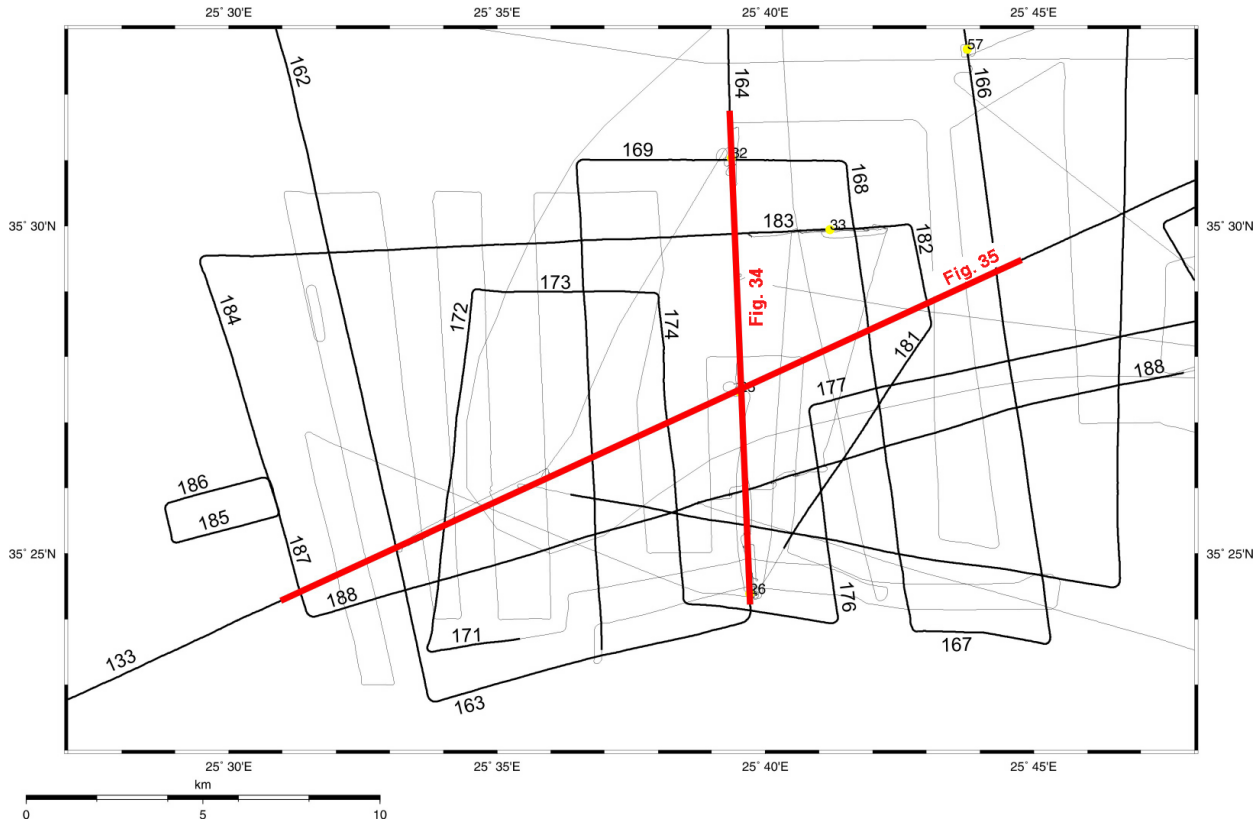


Fig. 33. Track chart across a slide area at the northern Cretan margin, study area D (Fig. 23).

The southern boundary of study area D is marked by a ~20 m high morphological step. North of this step, we see a much thinner chaotic sediment body, which extends up to FFID 3260. Several hummocks are imaged on this part of the profile. Such a pattern is also characteristic for a slide (study area E). Study area E ends at a morphological high where the slide came to a stop. The direct vicinity of the two slide units indicates a close relationship of both events. The study area D might have triggered a second event or the more mobile part of the slide disintegrates into a debris flow forming the thin chaotic layer with the hummocky surface. Profile GeoB06-133 (Fig. 35) crosses study area D in a West-East direction. A small channel levee system is imaged at the western end of the profile. The system sits on top of a reflector that comes up to the seafloor further to the west. Channel depth is only ~10 m but the levees are up to 50 m thick. The slide deposits reaches to the channel levee system at its western boundary. The chaotic internal structure of the slide including some intact features is very similar as described above for Profile GeoB06-164 (Fig. 34). The eastern boundary of the slide is located around FFIF 4800. The sediments east of the slide show a general undisturbed pattern with some small offset faults, which reach almost up to the surface. A thin (<20 m) drape does not seem to be affected by the faulting. The fact that the small channel levee system seems to have acted as barrier for the slide

supports a relatively young age of the slide system. As the channel levee system is build on top of a reflector, which almost reaches the seafloor further to the west, it needs to be very young; otherwise a subsurface reflector would mark the base of the channel levee system. As the channel levee acted as barrier for the slide it must be even younger than the channel levee system. As already mentioned above, we want to point out, that layers <5 m cannot be detected by the used seismic system, which makes it difficult to give exact ages for the channel levee system and the slide.

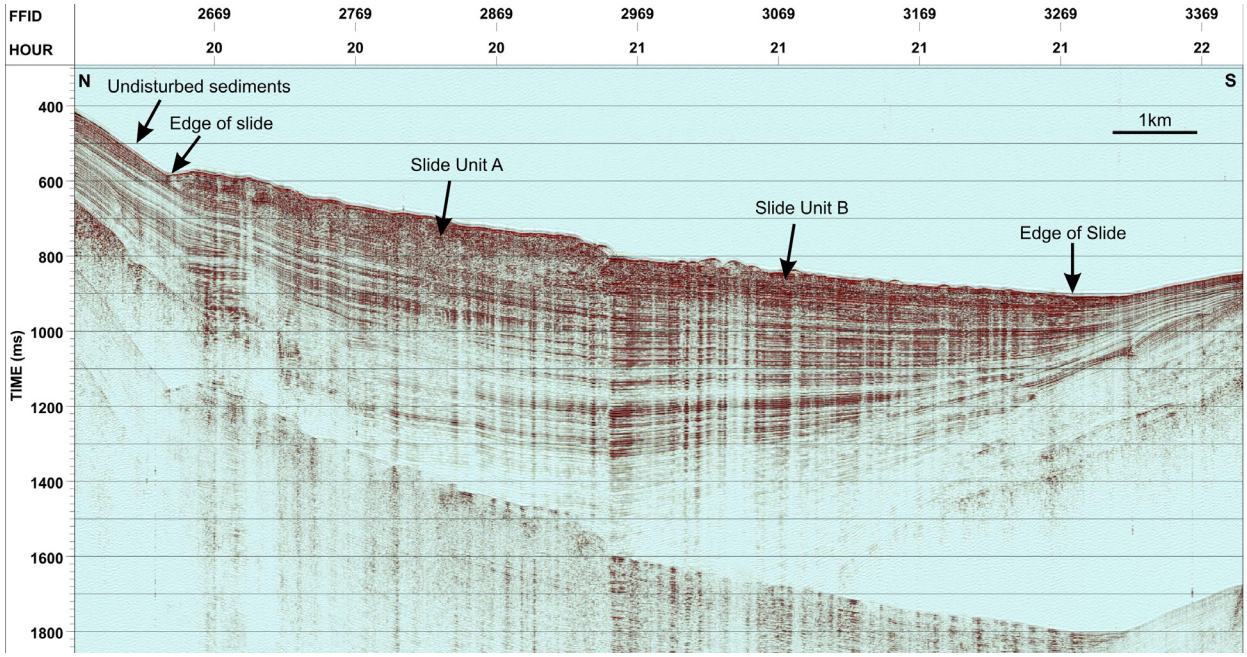


Fig. 34. Brute stack of Profile GeoB06-164 crossing a slide on the northern Cretan margin.See Figure 33 for location.

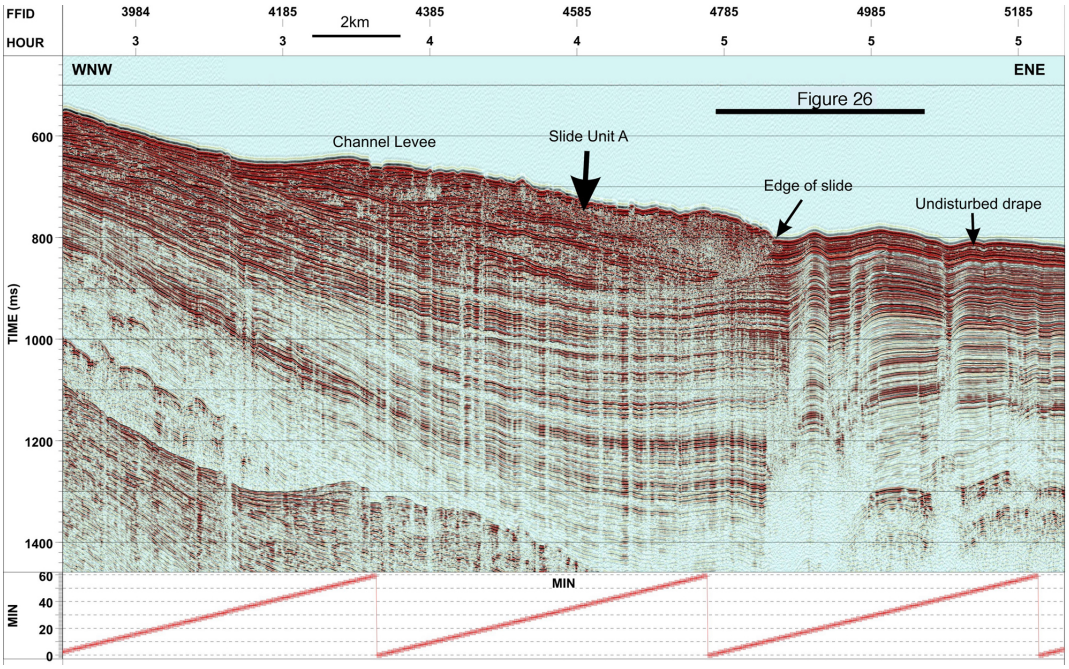


Fig. 35. Part of the brute stack of Profile GeoB06-133 crossing a slide on the northern Cretan margin. See Figure 33 for location.

A second slope failure is found further to the west on the Cretan margin in study area E (Figs. 23, 36). This slope failure differs significantly from the slide described above.

Fig. 36. Track chart across a slope failure on the northern Cretan margin, study area E (Fig. 23).

Profile GeoB06-195 (**Fig. 37**) runs in a SE-NW direction and shows two very pronounced morphological steps. The bathymetric map (see Ch. 6.1) shows that these morphological steps are the sidewalls of an amphitheatre like scarp. The width of the scarp on this profile is ~2 km but it widens further downslope.

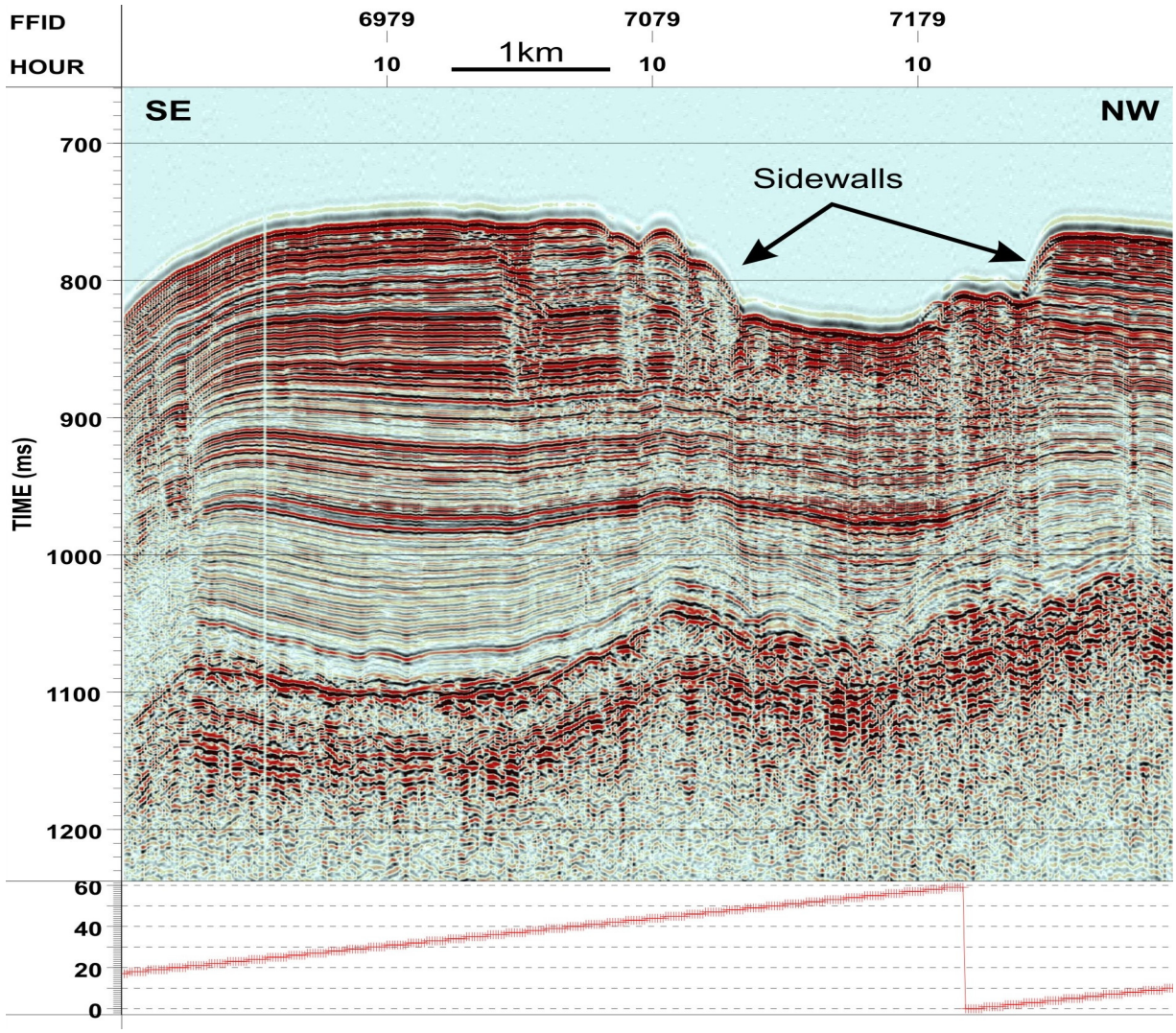


Fig. 37. Part of the brute stack of Profile GeoB06-195 crossing an amphitheatre like feature. Note that the profile is plotted in reverse direction. See **Figure 36** for location of the profile.

Figure 38 shows a closer look of the western sidewall. The sidewall is ~60 m high and has a slope gradient of >20°. Exact numbers can only be given after migration of the profiles. The well stratified sediments west of the scarp are cut at the sidewall and probably removed by a major slide. The sediments inside the scarp are characterized by a ~50 m thick chaotic to transparent seismic unit, which might represent slide deposits. Inside the unit, however, we see a significant

change from strong reflectors with a moderate continuity to a more transparent seismic facies further down. It is difficult to decide from the seismic data alone if the upper part of this unit is part of the slide deposits or if they represent hemipelagic sediments. Despite the very pronounced scarp no clear and continuous slide deposits were found on any seismic line.

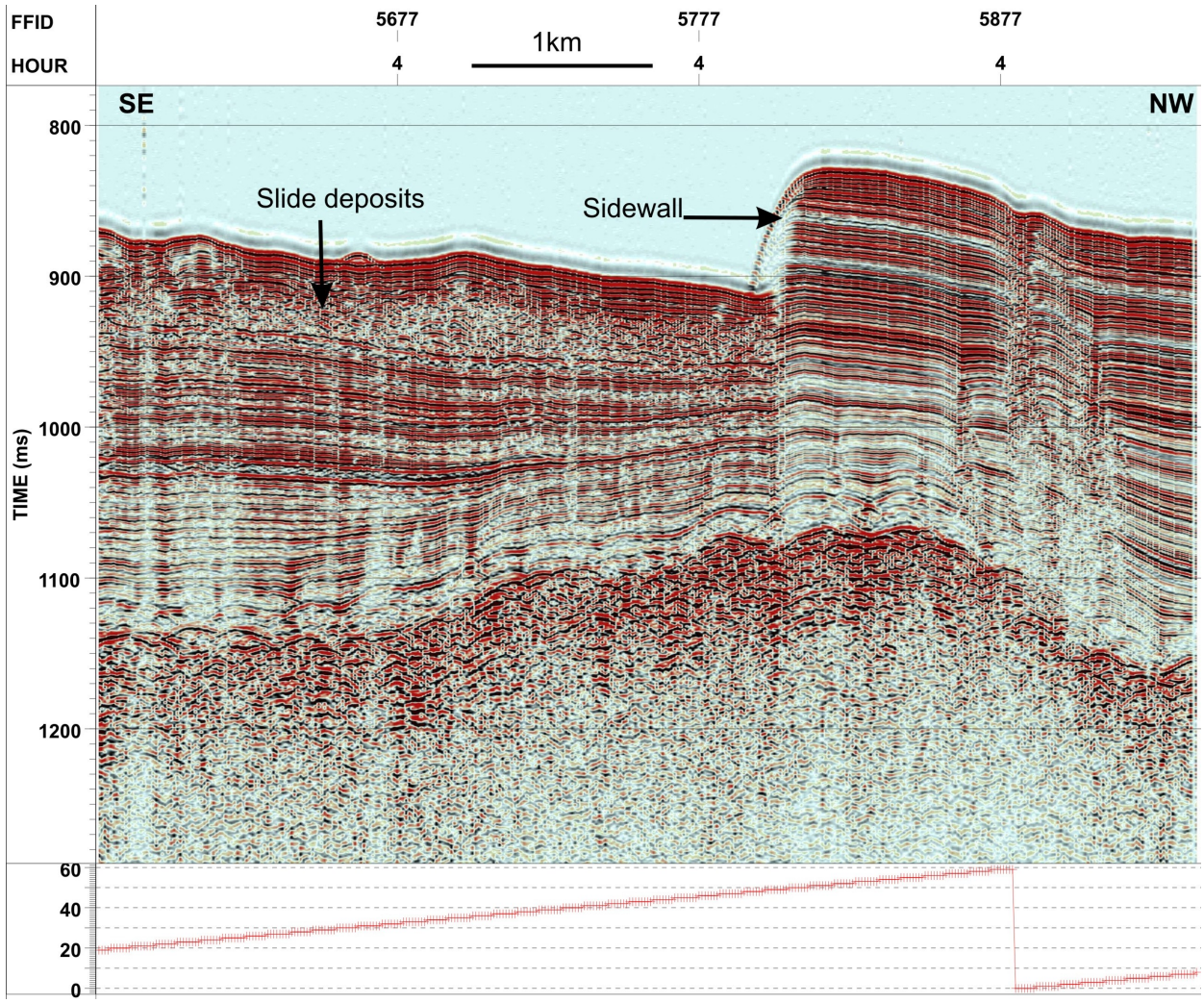


Fig. 38. Brute stack of Profile GeoB06-219 crossing the western sidewall of the steeply-dipping scarp. Note that the profile is plotted in reverse direction. See Figure 36 for location of the profile.

Profile GeoB06-207 (Fig. 39) crosses the headwall and the area around the headwall in a SW-NE direction. Undisturbed well-stratified sediments are found upslope of the headwall. The headwall cuts the well-stratified sediments and has a height of ~50 m at this location. Directly beneath the headwall a relatively thin (<50 m) chaotic unit lies on top of well stratified sediments. This unit has a relatively smooth surface. About 4 km downslope of the headwall the chaotic unit thickens significantly to ~almost 100 m probably representing the main depositional area of the slide. This chaotic unit, however, cannot easily be traced between profiles and does

not seem to be a continuous feature. Hence it is difficult to determine the extent of the main depositional area of the slide. Profiles further downslope hit the very steep slopes of a deep basin and it might well be that the major parts of the slide material is transported much further downslope and deposited in the deep basin.

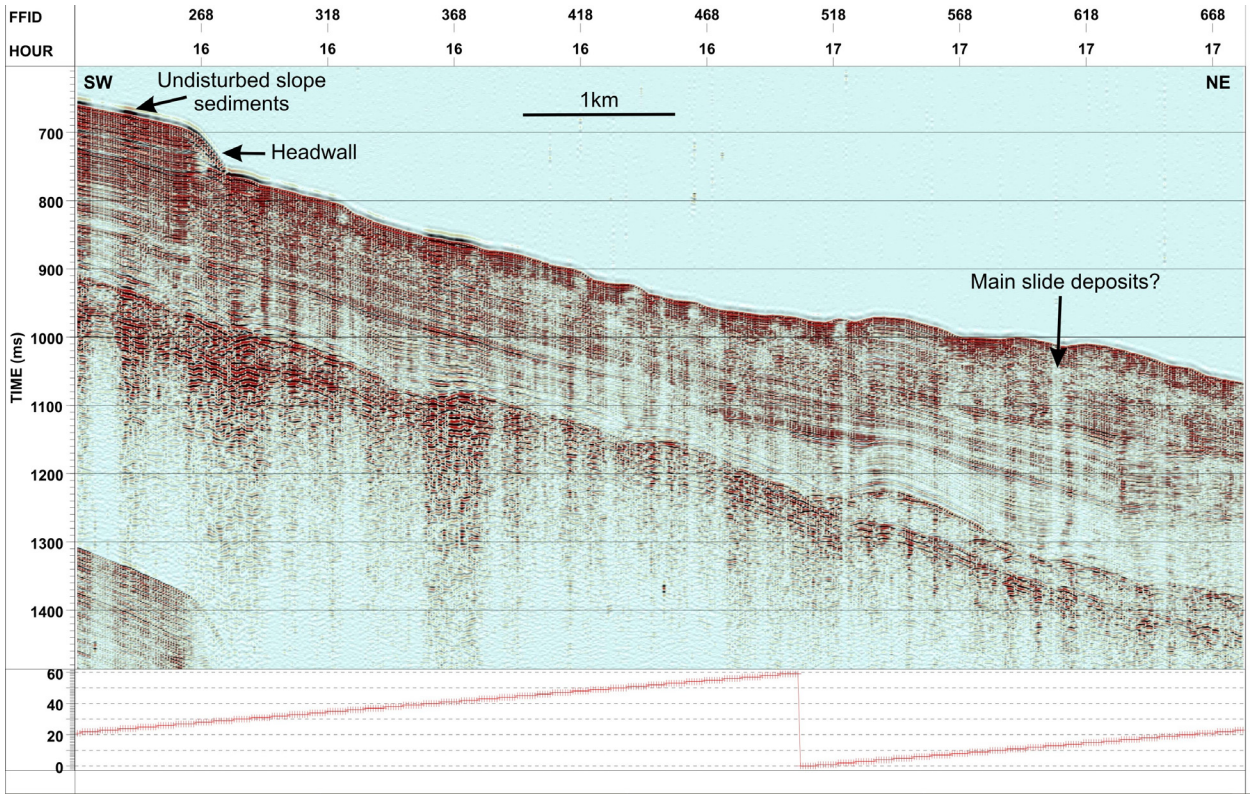


Fig. 39. Brute stack of Profile GeoB06-207. See Figure 36 for location of the profile.

6.5. Heat flow measurements

(N. Kaul, B. Heesemann)

Three main targets could be probed during this survey: i) one profile across the “Horse-shoe” structure within Heraklion basin (study area B; Fig. 23), ii) a seismically identified slump structure closer to the island (study area D; Fig. 23), and a scarp structure attributed a head and side wall of a slope failure (study area E; Fig. 23). This slid structure (area D) could be tackled with five transects to observe the edges of the structure, compared to its surrounding. Some of the results are given in Figure 40 (see also Table 1 for all heat flow locations).

A prerequisite for reliable temperature gradient measurements is a stable oceanographic situation which is usually not granted for water depth of 300 – 1000 m as encountered in the

working area. In most of the area the water sensor on the instrument indicates stable conditions at approximately 14.5°C except for a channel structure and its surrounding (see Chapter 6.2).

The determination of the geothermal heat flow requires the knowledge of the vertical temperature gradient and the thermal conductivity as a material constant. Values for the thermal conductivity were sampled after the cruise at core samples at distinct intervals (app. 0.1 m). As expected due to the vicinity to the coast, thermal conductivities show relatively high values (0.95 – 1.6 W/mK) with a regional mean of 1.06 W/mK. This is attributed to a high content of terrestrial input (i.e., quartz) and comparatively low amounts of pelagic debris.

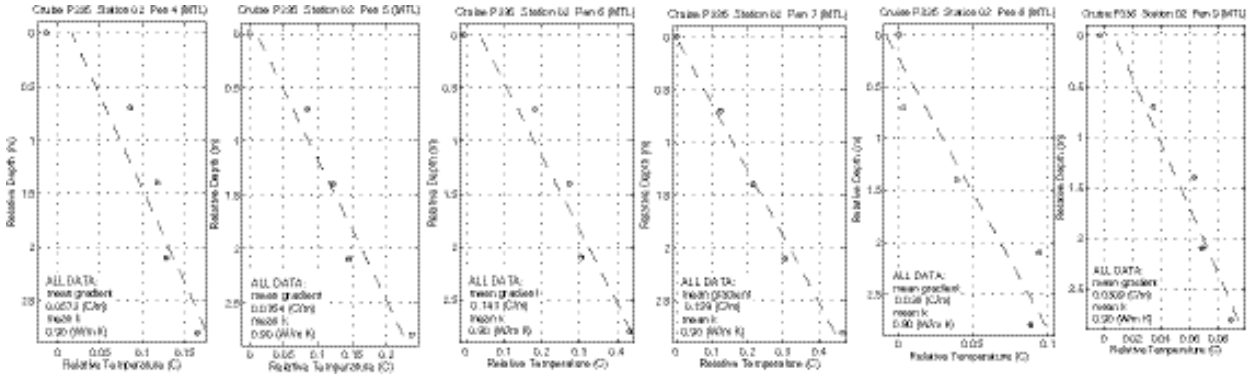


Fig. 40. Profile across the central "Horse shoe" structure, indicating high gradients of 140 and 160 mK/m on the top and app. 30 mK/m at a short distance. Order is from west to east. For location, see Fig. 23.

HF name	Poseidon name	Latitude N	Longitude E	Gradient mK/m
H0601P01	308-3	35° 53.18	25° 23.53	52
H0601P02	309-2	35°53.51	25°23.44	-
H0601P03	310-2	35°53.62	25°24.10	90
H0602P01	350	35°54.687	25°34.076	1.3
H0602P02	351	35°54.846	25°34.771	50
H0602P03	352	35°54.837	25°35.577	80
H0602P04	353	35°54.84	25°36.47	57
H0602P05	354	35°54.852	25°36.98	76
H0602P06	355	35°54.84	25°37.34	143
H0602P07	356	35°54.835	25°37.462	159
H0602P08	357	35°54.835	25°38.182	38

H0602P09	358	35°54.84	25°38.79	31
H0602P10	359	35°54.84	25°39.56	-
H0602P11	360	35°54.878	25°40.761	13.5
H0602P12	361-2	35°54.878	25°40.761	15
H0603P01	401	35°24.408	25°39.724	69
H0603P02	402	35°24.68	25°39.66	31
H0603P03	403	35°25.111	25°39.635	33
H0603P04	404	35°25.34	25°39.64	30.5
H0603P05	405	35°26.31	25°39.57	34
H0603P06	406	35°26.52	25°39.59	15.3
H0603P07	407	35°27.43	25°39.53	35.2
H0603P08	408	35°27.75	25°39.51	47.2
H0603P09	409	35°27.86	25°39.47	43.3
H0603P10	410	35°28.01	25°39.50	47
H0603P11	411	35°27.60	25°39.49	43
H0604P01	428	35°29.231	25°39.49	17
H0604P02	429	35°29.59	25°29.457	19.5
H0604P03	430	35°30.649	25°39.419	-
H0604P04	431	35°30.83	25°39.41	8
H0604P05	432	35°31.04	25°39.39	-
H0604P03b	433	35°30.614	25°39.377	13
H0604P04b	434	35°30.84	25°39.36	40
H0604P05b	435	35°31.06	25°29.39	8.5
H0604P06	436	35°31.272	25°39.365	51
H0604P07	437	35°31.44	25°39.33	55
H0605P01	440	35°26.188	25°35.958	20
H0605P02	441	35°25.141	25°33.297	59
H0605P03	442	35°25.50	25°34.21	58

H0605P04	443	35°25.67	25°34.65	-
H0605P05	444	35°25.80	25°24.96	-
H0605P06	445	35°26.817	25°35.009	-
H0605P07	446	35°25.964	25°35.368	-
H0606P01	468	35°25.764	25°38.740	43
H0606P02	469	35°25.894	25°39.314	22
H0606P03	470	35°26.082	25°40.109	18
H0606P04	471	35°26.189	25°40.58	21
H0606P05	472	35°26.331	25°41.077	28
H0607P01	473	35°29.989	25°42.184	27.7
H0607P02	474	35°29.97	25°41.84	31
H0607P03	475	35°29.933	25°41.166	30
H0607P04	476	35°29.92	25°40.63	29
H0607P05	477	35°29.87	25°39.67	33
H0608P01	523	35°26.95	25°50.85	8
H0608P02	524	35°27.218	25°51.182	23
H0608P03	525	35°27.457	25°51.451	26
H0608P04	526	35°27.707	25°51.771	33
H0608P05	527	35°27.954	25°52.064	59
H0608P06	528	35°28.323	25°51.584	31
H0608P07	529	35°28.648	25°51.144	64
H0608P08	530	35°29.185	25°50.362	39
H0608P09	531	35°26.746	25°50.704	40

Tab. 1. Positions and nomenclature of temperature gradient measurements (HF).

6.6. CPT testing

(S. Stegmann, A. Kopf)

The DW-Lance as well as the SW-Lance has been deployed in the four geological areas B (East Side Western Basin), C (Horseshoe structure), D (Slide complex Cretan Margin), and E (Scarp Structure) (for location, see Figs. 23, 41). Depending on the swell, the lance was stuck in the sediment after the insertion for - in best case - about 10 minutes to observe the dissipation behavior of the insertion pore pressure and to define T_{50}, the time which is needed for a 50% decay of the maximum pore pressure and is therefore used as a first-order indicator for permeability. The described penetration behavior for both CPT-systems is done by using the sediment stuck to the lance after the measurement and recovery. So, in case of pogo-style deployment, it was not possible to detect penetration depth immediately because the CPT remained in the water column near the seafloor whilst moving the ship to the next position. In that case, the 2nd integration of the vertical acceleration, which is stored during each measurement, can be used to calculate the penetration depth. This effort processing will be part of the post-processing and the actual missing information will be supplemented. As the DW-CPT mostly penetrated less than 0.7 m, the upper pore pressure sensor was still in the water column. Table 2 summarises, in addition to the frame parameter (position, penetration depth, duration), pore pressure data (insertion, T_{50}).

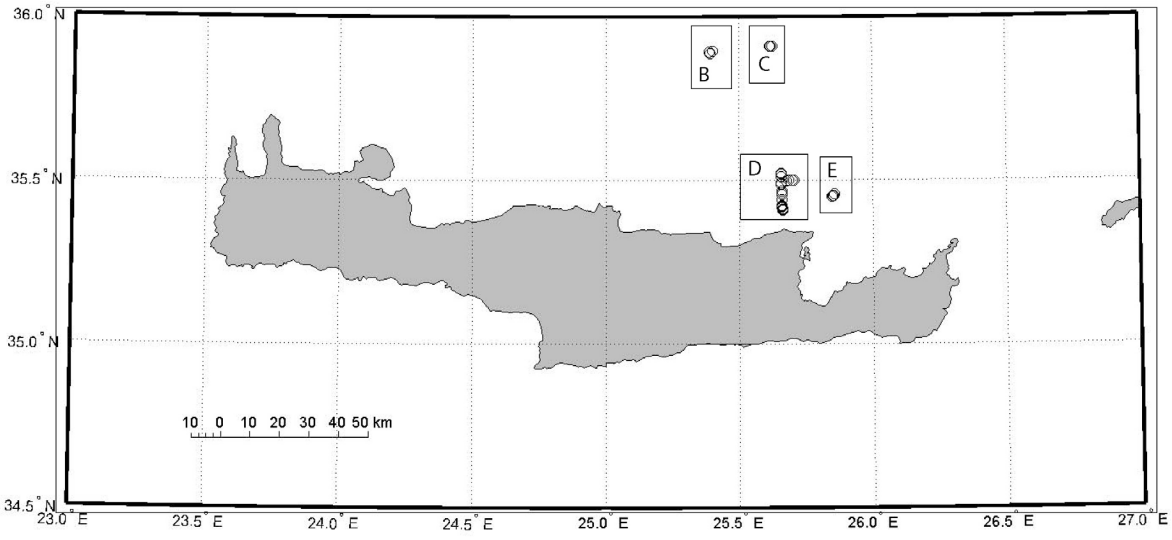


Fig. 41. Map of CPT deployments in the various study areas B – E. See text.

Typical pore pressure features are combined in Figure 42. The “classical” pore pressure signal is represented by class 1 data (Fig. 42A), where an insertion maximum is followed by an exponential decay. Unfortunately, most of these measurements exceeded the upper limit of the differential pore pressure sensor in u_1 position. Pore pressure feature of class 2 (Fig. 42B) is characterized by a significant peak, followed by a decay with later increase again. Based on previous pore pressure measurements in different locations, we interpret the peak as a result of a displacement of relatively stiff material, which generates first a peak and after that, an expulsion by the lance an evolution of the “undisturbed” insertion pore pressure. In this case, the later part of pore pressure evolution is used to define the insertion pressure and decay of the pore pressure signal. In contrast, the homogenous displacement of softer material may coincide with the “classical” pore pressure (class 1) evolution.

Lat_dez	Lon_dez	Stationnr	GeoB-Number	Geo. Structure	Class	Penetration Depth [cm]	Insertion Pore Pressure [kPa]	Duration [min]	T50 [min]
36.0053	25.1356	286	10406-2						
36.0367	25.1383	299	10410-2						
35.8861	25.3919	308	10413-2	B	2	58	74	22.7	9
35.8922	25.3903	309	10414-1	B	1	94	no data	0	no data
35.8942	25.4008	310	10415-2	B	1	88	77	13.5	5.5
35.9075	25.6242	318	10416-2	C	no data		no data	0	no data
35.9086	25.6242	319	10417-1	C	1	97	77	10	2.4
35.9086	25.6181	320	10418-1	C	1	133	77	10.4	2
35.9086	25.6144	321	10419-1	C	2	95	13.5	7.3	2
35.4161	25.7033	479	10434	D	2	50	54	10.2	2.1
35.4158	25.6964	480	10435	D	2	40	37	11.7	4.2
35.4158	25.6861	481	10436	D	2	60	40	11.7	4.2
35.4153	25.6767	482	10437	D	2	50	42	11.2	6.2
35.4067	25.6617	483	10438	D	2	100	46	10.8	6
35.4114	25.6608	484	10439	D	2	155	62	11.7	5
35.4017	25.6606	485	10440	D	2	45	25	8.8	5
35.4053	25.6603	486	10441	D	1	55	77	10.4	5.4
35.4083	25.6597	487	10442	D	2	55	64	10.2	3.1
35.4072	25.6583	488	10443	D	2	45	60	10.8	3
35.4125	25.6586	489	10444	D				0	
35.4003	25.6586	490	10445	D	2	45	24	17.1	1.2
35.4042	25.6572	491	10446	D	2	55	62	10	0.2
35.41	25.6569	492	10447	D	2	60	40	10.6	2.3
35.4103	25.6561	493	10448	D	2	55	54	10	2.4
35.4006	25.6561	494	10449	D	2	40	46	9.4	1.9
35.4042	25.6556	495	10450	D		65	no data	0	no data
35.4019	25.8503	553	10459-1	E	1		77	11.9	2.7
35.4019	25.0836	553	10459-2	E	1		77	10.7	2.6
35.4019	25.8517	553	10459-3	E	1		77	9.5	2.6
35.4022	25.8517	553	10459-4	E	1		77	9.5	1.9
35.4028	25.8517	553	10459-5	E	1		77	10.3	1.8
35.4036	25.8519	553	10459-6	E	2		46	11.1	3
35.4036	25.8519	554	10460-1	E	1		50	10.9	2.4
35.4078	25.8522	555	10461-1	E	2		74	9.4	1.7
35.4156	25.8344	556	10462-1	E	2		72	10.1	1.6

Tab. 2. CPT results acquired during P336. See also Figs. 41-43.

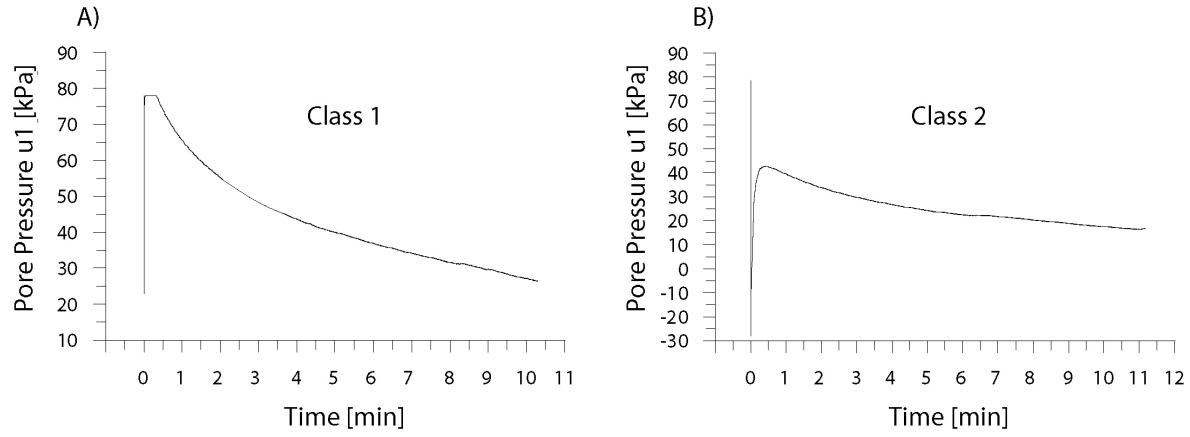


Fig. 42. Typical pore pressure features in Cretan Sea sediment. See text.

In the CPT data of the Cretan Sea it is not easy to identify a clear correspondence between a certain pore pressure feature and a geological structure (Tab. 2). The maximum penetration depth of the DW-Lance was 155 cm. Generally, the insertion pore pressure ranged between 13.5 kPa in the Horseshoe Structure (area C) and more than 77 kPa in the scarp area of a small landslide (area E), where T_{50} varies between 0.2 mins. on the Slide Complex (D) and 9 mins. in the East Side Western Basin (B) (Tab. 2).

The only study area where a significant number of tests were carried out with both the SW- and DW-instrument was area D (Figs. 23, 41). In the slide complex at the northeastern Cretan Margin (see seismic reflection line in Fig. 35), we measured along a transect with a high spatial resolution from the upslope undisturbed sediments downslope to the failed deposits (Fig. 43). In this area penetration depth varied between 40 cm and 155 cm, whereas penetration depth of about and over 100 cm was only reached in the undisturbed sediments in the south (Fig. 43B), where the background sediment (silty to sandy mud) dominates in the upper 120 cm (see Appendix 9.2, Core GeoB10426).

The deposits allowed us a penetration depth between 40 cm and 60 cm. In the same way, T_{50} varied between 5 and 6 minutes and indicates less permeable sediments in the upslope, whereas a gradient (downslope) can be observed to slightly more permeable material with T_{50} between 0.2 and 3 minutes (Tab. 2). In the EW-cross-section (GeoB position number 34-37, Appendix 9.1, Fig. 43A,C), however, lower permeability is observed.

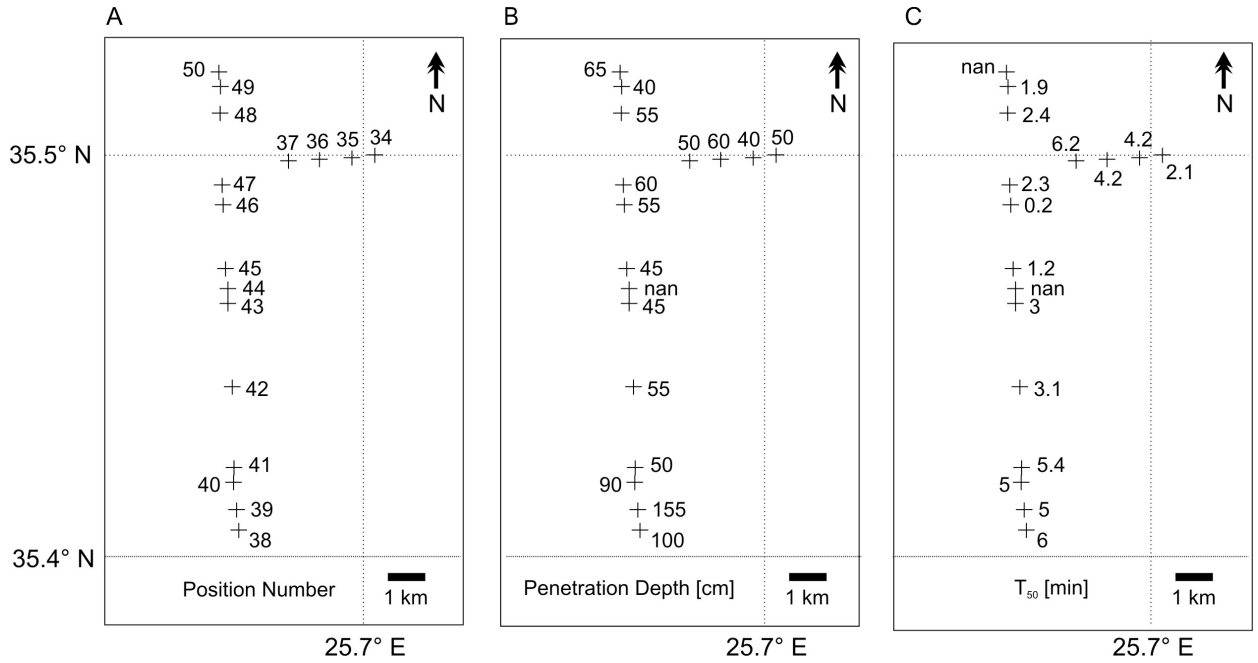


Fig. 43. Maps of study area D, the large landslide body (see Fig. 23 and 41 for location). **A** gives the GeoB station (last two digits; see Appendix 9.1), **B** shows penetration depth in cm, and **C** gives T50 value in minutes;

nan = no data. See text for discussion.

The thickness of the sand to silty mud layer in the slide complex, which overlies the S1 sapropel is highest in the upslope area, and decreases downslope. There, the thickness of the slid deposits and the upper boundary of the S1 sapropel (~0.5 m, see Appendix 9.2 and Ch. 6.7 below) agree with the penetration depth of the CPT. The stiff sapropel may hence be too hard to allow penetration with the DW-CPT. Post-cruise shear tests are underway to shed light on the strength of the organic-rich layer in comparison to the dominant silty clays.

6.7. Gravity coring and sediment description

(M. Strasser, R. Schäfer, T. Alvez, S. Stegmann, M. Reichelt)

During cruise P336, 30 gravity cores of 0.1 to 5.67 m length were recovered in 6 study areas (A-F; see Fig. 23), totaling 70 m of core recovery (Figs. 44-45). It turned out to be difficult to core the hemipelagic sediments in the Cretan Sea and core recovery often was low and only few decimeters of core length could be retrieved. Estimations based on sedimentations rates, sapropel chronology and tephra chronology (see below) suggest that the longest section covers approximately the last 100 ka.

A	Gravity Core #: GeoB10406-3	286-3	03.05.2006	08:40	36°	00.32'	N	025°	08.14'	E	1767.0	-	3.5	0.66
	Gravity Core #: GeoB10407-1	287	03.05.2006	10:25	35°	58.89'	N	025°	08.07'	E	1780.0	1909	3.5	0.58
	Gravity Core #: GeoB10408-1	288	03.05.2006	11:58	35°	58.27'	N	025°	07.98'	E	1774.0	1900	3.5	0.10
	Gravity Core #: GeoB10410-1	298	04.05.2006	09:22	36°	02.26'	N	025°	08.33'	E	1707.0	~1835	3.5	0.25
B	Gravity Core #: GeoB10412-1	301	04.05.2006	15:40	35°	53.18'	N	025°	23.51'	E	1686.0	~1825	3.5	0.35
	Gravity Core #: GeoB10413-1	308	05.05.2006	08:08	35°	53.17'	N	025°	23.53'	E	1684.0	1828	3.5	0.77
C	Gravity Core #: GeoB10416-1	318	06.05.2006	03:52	35°	54.47'	N	025°	37.44'	E	1036.0	1174	3.5	2.22
	Gravity Core #: GeoB10417-1	319	06.05.2006	06:20	35°	54.52'	N	025°	37.46'	E	1025.0	~1150	3.5	2.90
	Gravity Core #: GeoB10418-1	320	06.05.2006	08:13	35°	54.52'	N	025°	37.09'	E	1020.0	1103	3.5	3.00
	Gravity Core #: GeoB10419-1	321-2	06.05.2006	10:57	35°	54.62'	N	025°	36.80'	E	1091.0	1166	3.5	5.67
	Gravity Core #: GeoB10420-1	375	09.05.2006	03:50	35°	54.85'	N	025°	34.04'	E	1165.0	1244	3.5	0.10
	Gravity Core #: GeoB10421-1	376	09.05.2006	05:24	35°	54.85'	N	025°	37.33'	E	1044.0	1115	6	5.00
	Gravity Core #: GeoB10421-2	376-2	09.05.2006	06:34	35°	54.85'	N	025°	37.34'	E	1043.0	1117	6	5.14
	Gravity Core #: GeoB10422-1	377	09.05.2006	08:06	35°	54.84'	N	025°	40.81'	E	1272.0	1364	6	0.10
	Gravity Core #: GeoB10423-1	378	09.05.2006	09:49	35°	57.03'	N	025°	37.22'	E	1233.0	1324	6	4.47
	Gravity Core #: GeoB10424-1	379	09.05.2006	11:33	35°	55.43'	N	025°	37.37'	E	1069.0	1138	6	5.64
D	Gravity Core #: GeoB10425-1	412	10.05.2006	10:50	35°	27.47'	N	025°	39.52'	E	545.0	570	6	4.48
	Gravity Core #: GeoB10426-1	413	10.05.2006	11:49	35°	24.39'	N	025°	39.71'	E	337.0	364	6	2.93
	Gravity Core #: GeoB10431-1	438	11.05.2006	11:17	35°	30.87'	N	025°	39.35'	E	667.0	709	6	0.00
	Gravity Core #: GeoB10432-1	439	11.05.2006	12:36	35°	31.03'	N	025°	39.37'	E	667.0	710	3	1.55
	Gravity Core #: GeoB10433-1	478	13.05.2006	17:08	35°	29.94'	N	025°	41.20'	E	676.0	727	3	3.00
E	Gravity Core #: GeoB10452-1	506	14.05.2006	14:20	35°	28.30'	N	025°	51.12'	E	592.0	676	3	3.00
	Gravity Core #: GeoB10453-1	507	14.05.2006	15:08	35°	28.92'	N	025°	52.20'	E	714.0	761	3	2.77
	Gravity Core #: GeoB10454-1	522	15.05.2006	06:13	35°	29.53'	N	025°	53.94'	E	760.0	809	6	4.64
	Gravity Core #: GeoB10455-1	531-2	15.05.2006	16:00	35°	26.73'	N	025°	50.63'	E	479.0	507	6	4.00
D	Gravity Core #: GeoB10457-1	551	16.05.2006	04:33	35°	32.69'	N	025°	43.76'	E	744.0	790	6	1.00
E	Gravity Core #: GeoB10458-1	552	16.05.2006	07:20	35°	27.12'	N	025°	51.01'	E	515.0	565	6	2.00

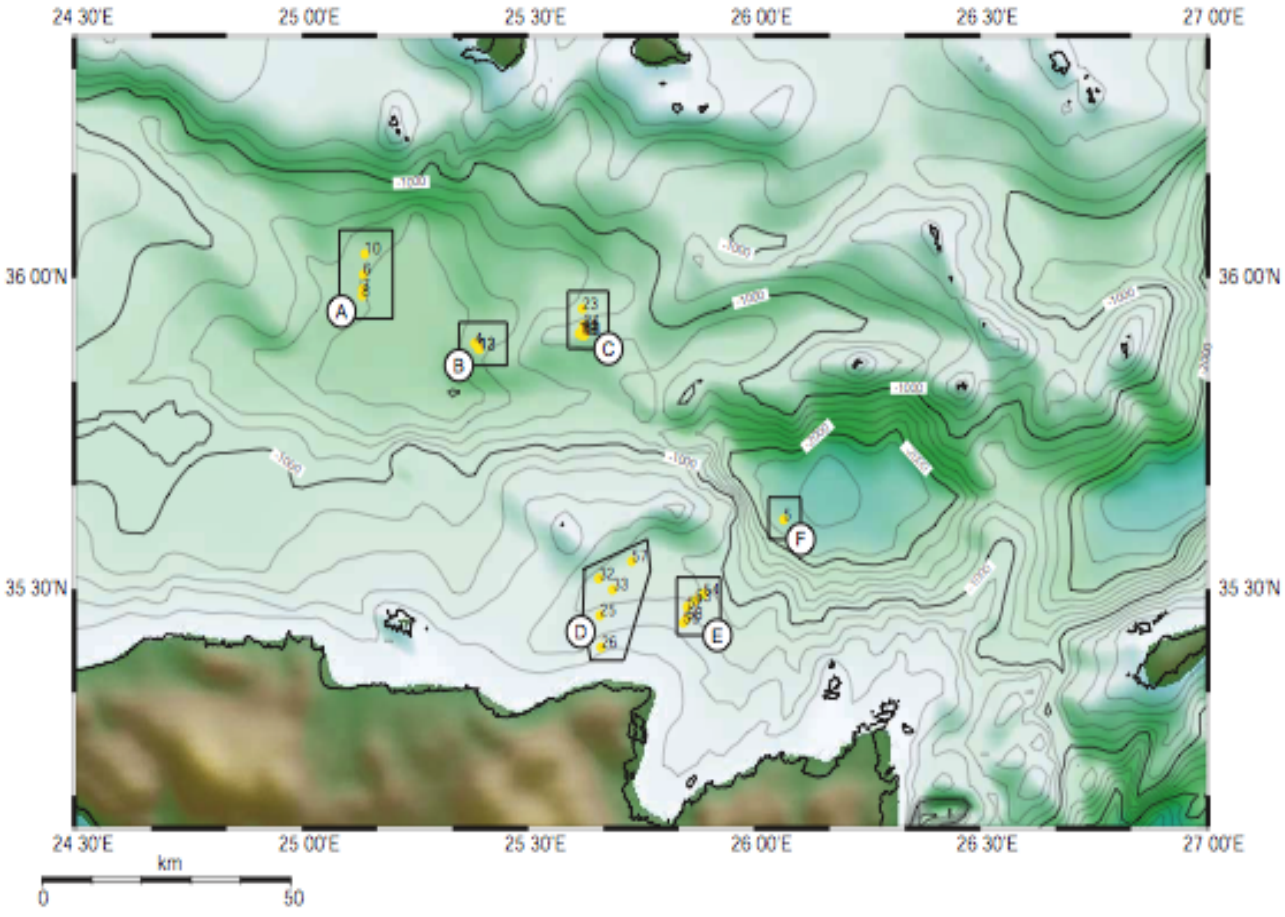


Fig. 44. Table and map summarizing the gravity coring information in study areas A-F.

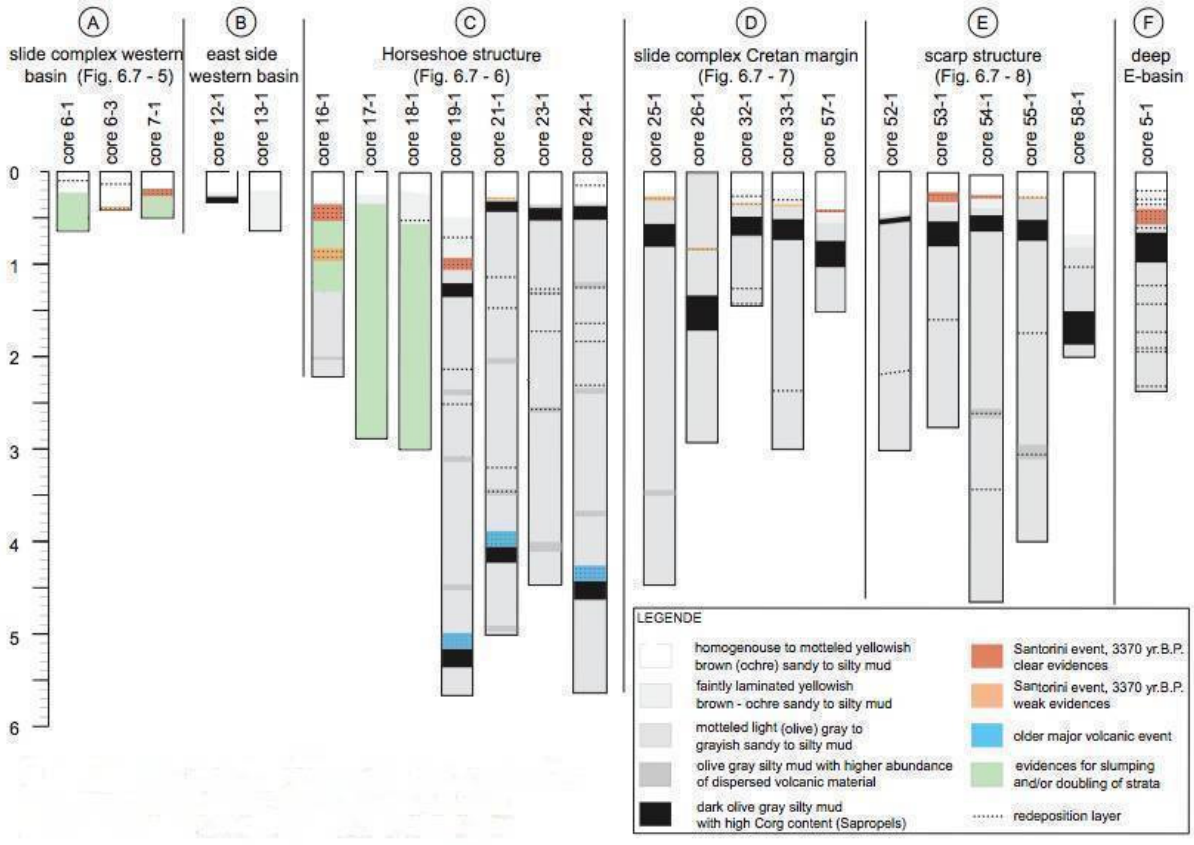


Fig. 45. Compilation and simplified lithological profiles of all cores recovered in study areas A-F. See also text and Fig. 44 above.

Sediment description

Generally, sediments cored during the entire cruise are dominated by a mixture of pelagic oozes (nannofossils, foraminifera, pteropodes and flagellatae) with varying portion of clay, volcanic material (glass shards and pumice), fine grained terrestrial material (mainly feldspar and quartz), organic material, minor amounts of shell fragments (debris of bivalves, gastropods, serpulidae and benthic foraminifera) and, occasionally, carbonaceous clasts and nodules of mm- to cm- diameter. The facies are typically fine to medium grained and homogenous to mottled, with few identifiable sedimentary structures apart from bioturbation and distinct redeposition layers (see below). Bioturbation generally is moderate leading to a mottled appearance with few chondrites. The color varies from yellowish brown (ochre) in the upper part of the sedimentary section to light (olive) grey down-section, with distinct dark olive grey intervals.

Lithostratigraphy

Based on color, grain size distribution and organic material content the dominant hemipelagic lithologies could be assigned to the existing stratigraphic framework (Aksu et al., 1995; Geraga et al., 2000; Giresse et al., 2003) (see above). From top to bottom, they are

Unit 1: yellowish brown bioturbated muds,

Unit 2: grey mud, mottled and moderately bioturbated,

Unit 3: greyish, brownish to olive grey mud, >2% C_{org}, no bioturbation (Sapropel S1)

Unit 4: yellowish grey clayey mud, slightly bioturbated.

In the lower portion of Unit 1 we identified in several cores that the facies sometimes is faintly laminated and sediments have slightly higher organic contents. This section was assigned to Unit 1b and could potentially be related to a beginning stage of sapropelic sediment formation around 2000-1200 year B.P (Giresse et al., 2003). In 3 cores (core 19-1, 21-1, 24-1) another ~20 cm thick interval of dark olive gray silty mud with higher content of organic material was recovered (here assigned to Unit 5). Based on its stratigraphic position (Fig. 46) this layer is interpreted to correlate to sapropel S3 dated to have occurred between 81 and 78 ka BP (Muerdter et al., 1984; Lourens 1996; Kroon et al., 1998), while sapropel S2 (ca. 55 ka BP) is missing (see Ch. 4.2 above). The mottled light (olive) grey to greyish silty mud below this sapropel layer is assigned to Unit 6.

Volcanic ash / volcanoclastic layers

Volcanic ash / volcanoclastic layers represent an important minor lithology. Two prominent and few less distinctive layers of volcanic origin where identified.

Z-2-Santorini event (3370 yr B.P.)

The upper most of these two prominent layers was recovered in core depth between 0.2 and 1 meter below sea floor and ranges in thickness from few millimeters (only identified based on high content of glass shards in smear slides) and up to 20 cm (comprising black to light gray, sand to gravel sized pumice components). From its stratigraphic position and its peculiar

appearance it has here be assigned to correlate to the Z-2 ash layer related to the “Minoan” eruption of the Santorini volcano, Thera island, that has been dated to be 3370 years BP (Pichler & Friederich, 1976; Keller et al., 1978).

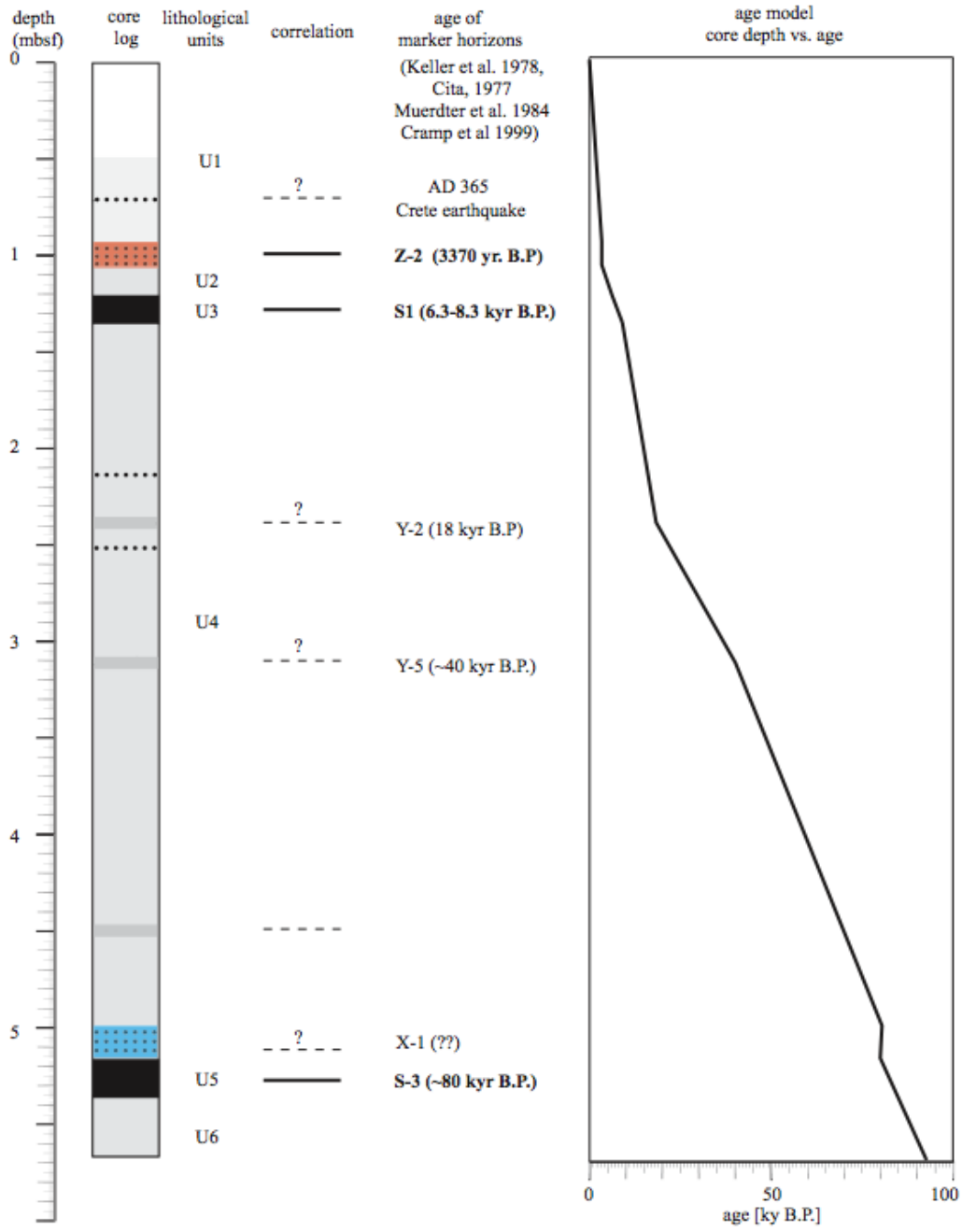


Fig. 46. Attempt to correlate marker intervals in core GeoB10419-1 with dated marker layers identified in other cores from the eastern Mediterranean Sea. Bold correlation lines indicate correlation with high confidence whereas dashed lines are rather speculative and entirely supported by initial shipboard observation. The resulting age model appears to be valuable since it satisfies published sedimentation rates (Geraga et al., 2000; Giresse et al., 2003), sapropel chronology (Muerdter et al., 1984; Kroon et al., 1998) and tephrachronology (Keller et al., 1978). However, future dating of P336 cores is needed to reliably constrain this model.

The Z-2 ash layer recovered in cores from deep basins (e.g., core 5-1) often comprises multiple stacked, normally and inverse graded mm to cm thick sand layers with an erosive base that is overlain by either coarser grained sediment composed mainly of light pumice gravels (as recovered mainly in study areas A, B, and C immediately south of the island of Santorini) or faintly laminated multiple brownish ash layers of only few mm thickness (as recovered in the Kamilonisi basin) (Fig. 47A and B). Smear slide analyses of the basal sandy material revealed not only volcanoclastic material but also variable portions of terrestrial material (mainly feldspar and quartz) and shell fragments (debris of bivalves, gastropods, serpulidae and benthic foraminifera) indicating not only a volcanic source but also that a considerable amount of shallow water material was mobilized and transferred to the deep basin. The stacked turbidite succession furthermore indicates that sediment was not transported during one single pulse but instead involved a series of closely spaced events or, perhaps, pulses within a single mass flow event. Speculatively, this could be related to volcanic shore collapses, submarine mass movements on the volcanic flanks and/or to tsunami waves in the Cretan Basin triggered by the final volcanic collapse.

X-1 Hellenic volcanic event (~80 ka B.P.)

A second prominent few cm-thick volcanoclastic event layer containing black, up to 5 mm big, pumice pieces was identified immediately above sapropel layer S3 in core (core 19-1, 21-1, 24-1). From its facies this layer is interpreted to correspond to a major volcanic event in the Hellenic area similar to the historic “Minoan” eruption and – based on its stratigraphic position – could correlate to the X-1 Hellenic ash layer identified in other core from the eastern Mediterranean (Keller et al, 1978).

Other volcanic ash layers

Throughout the sedimentary section few intervals where identified that comprise higher abundance of mainly black (presumably mafic) dispersed volcanic material, suggesting the occurrence of tephra layers that have been disrupted by bioturbation after deposition. In Figure 46 an attempt was made to – speculatively – correlate these intervals to known volcanic ash layers (Keller et al. 1978).

Core photographs showing: a) + b) Z-2 Santorini event layer. a) multiple stacked, inverse and normally graded volcanic sand and pumice layers. b) multiple stacked, inverse and normally graded volcanic sand layers that are overlain by faintly laminated multiple brownish ash layers. c) graded, brownish gray sandy layer with erosive base. d) + e) sediment deformation structures. d) normal fault, e) tilted beds and sedimentary folds. f) reworked carbonate crust clasts covered with serpulid tubes g) well preserved deep water coral test (Caryophyllia, probably C. calveri). h) + i) special sedimentary structures: cylindrical tubes (bioturbation or fluid conduits?), h) open cylindrical tubes (3cm in diameter), originally filled with soupy sandy to silty mud "extruded" during core cutting, i) vertical channel filled with soupy sandy to silty mud.

Fig. 47. Collection of core photographs (see description above plate).

The resulting age models appears to be a valuable solution satisfying published sedimentations rates (Geraga et al. 2000; Giresse et al. 2003), sapropel chronology (after Kroon et al., 1998) and tephra chronology (Keller et al., 1978), but future dating is needed to reliably constrain the age control on the recovered sedimentary section during cruise P336.

Redeposited Intervals

Turbidites.

Although the facies are typically pelagic, there are a number of minor redeposited intervals (0.5 to max 1 cm thick sand layers) that contain considerable amounts of shell fragments (debris of bivalves, gastropods, serpulidae and benthic foraminifera) with either (i) volcanic material, indicating sediment transport from the north or (ii) terrestrial material (mainly feldspar and quartz), indicating a sediment source in the south (Crete Margin). An example is seen in interval GeoB10405-1, 21.5-22.5 cm (Fig. 47C) where a brownish gray bed shows a graded erosive base. Smear slide analyses revealed mainly siliciclastic components suggestive of redeposition along the Cretan Margin. From its stratigraphic position (i.e. 20 cm above Z-2 ash layer) this turbidite layer might be a valuable candidate to be related to the 1636 BP M>8 earthquake.

Mass-movement deposits

From a sedimentological point of view, clear evidences for mass-movement deposits only were identified in cores retrieved in study area A and C, whereas for study area D and E – where seismic data indicate major and relatively young landslides deposits and slope failure scars – clear evidences for mass movements deposits are missing. None of the mass movement events can be related unambiguously to the 365 AD earthquake and clustered seismic activity around that period (see Stiros, 2001).

Study area A: Slide complex western basin

The study area A was chosen as coring site based on multiple stacked wedges showing chaotic to transparent seismic facies in the 3.5 kHz seismic profiles, indicating young mass movement deposits (Fig. 48). However core recovery was very limited (max 75 cm). Nevertheless, clear evidences of mass-movements deposits (i.e., mud clasts, sand patches, and sedimentary folds) were identified both above and below the stratigraphic marker horizon Z-2 (Santoroni event) in core 6-1 and 7-1, respectively. Most probably, the limited core-penetration

depth does not allow to correlate these mass-movements to the deposits identified in the 3.5 kHz seismic profiles. Nevertheless the occurrence of stacked mass-movement deposits in the upper part of the sedimentary succession suggests an ongoing, rather catastrophic type of sedimentation in this area.

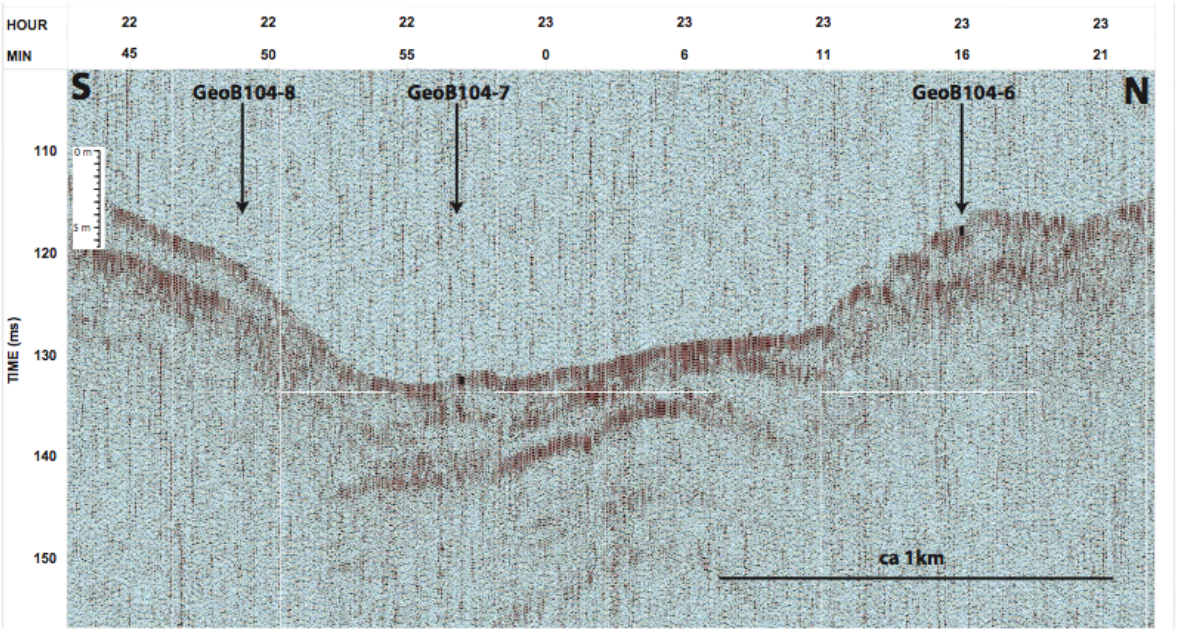


Fig. 48. High-resolution 3.5 kHz seismic reflection profile across study area A showing chaotic to transparent facies and wedge-shaped geometries. Arrows indicate locations of cores and small vertical lines indicate recovered core length (<60 cm). For location see Figs. 23 and 27.

Study area C: Horseshoe structure

Study area C comprises a bathymetric high with a distinct horseshoe-shaped geometry that was surveyed extensively during P336 (Fig. 49). Two coring transects crossing the structure in E-W and N-S direction revealed normally stratified sections on top and next to the bathymetric high lacking any evidences of landslide or mud-flow deposition (cores GeoB10419,-21,-23, and -24), but heavily disrupted and slumped sections on the relatively steep flanks (see seismic profiles above). The cores retrieved on the flanks (cores GeoB10416, -17 and -18) are characterized by tilted and folded beds, repetition of strata, syn-sedimentary folds and normal faults, mud clasts and sand patches (Fig. 47D and E), both above (cores -17 and -18) and below (core -16) the stratigraphic marker horizon Z-2 (Santoroni event). This suggests that the flanks of the bathymetric high are highly exposed to small scale submarine slumping and creeping.

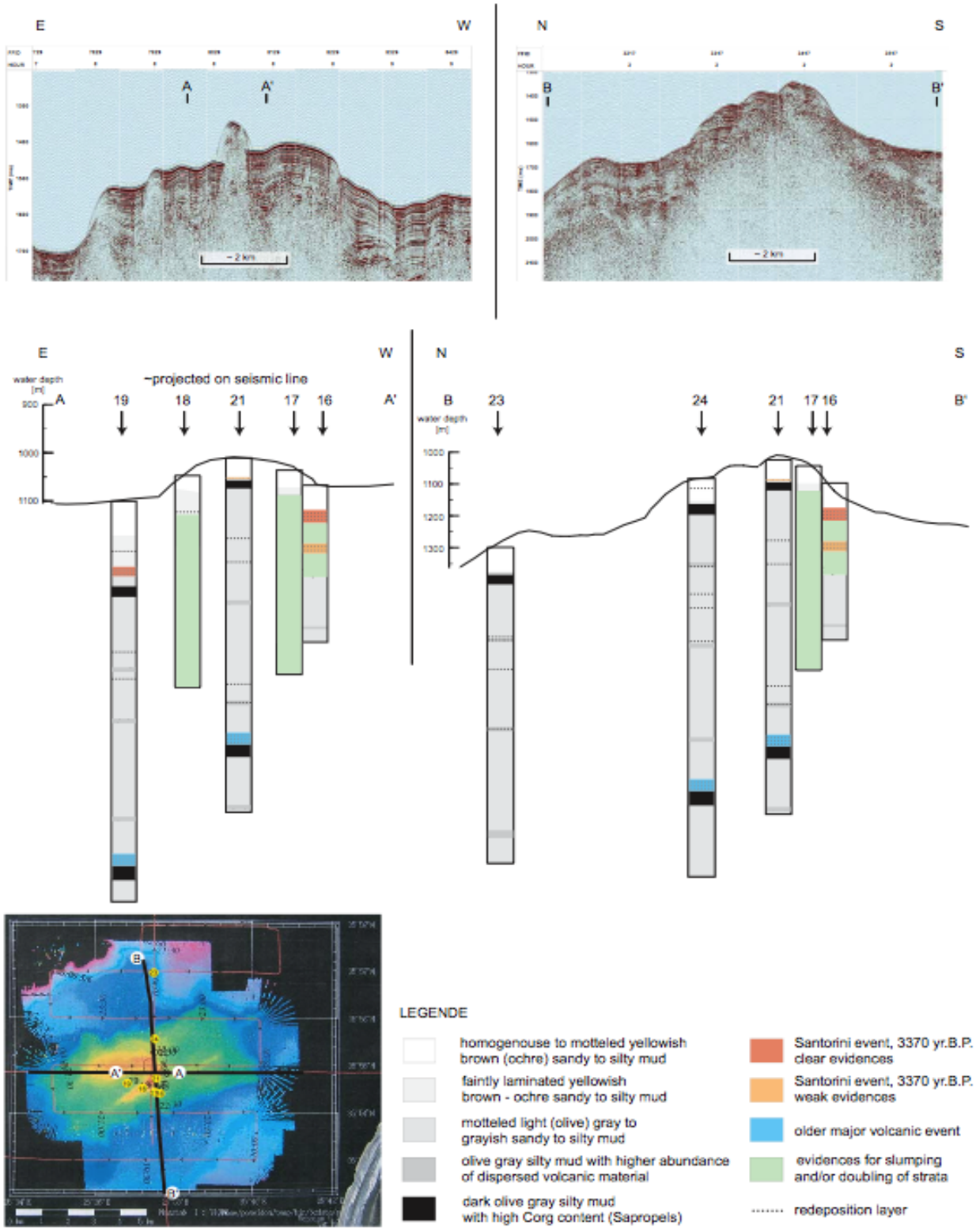


Fig. 49. Compilation of results from study area C: Two perpendicular seismic profiles (top), the gravity cores on those profiles (middle), and a bathymetric chart for location (bottom). See text for discussion.

Study area D: "Slide" Cretan Margin

A major, relatively young landslide deposit was identified in the seismic section offshore Crete (see Ch. 6.4 above). 5 Gravity cores adjacent (core -26 upslope and core -57 downslope) and on the landslide deposit (cores GeoB10425, -32 and -33) were retrieved in order to date and to characterize the landslide deposit (Fig. 50).

However all cores show similar lithostratigraphic successions characterized by the "normal" succession of (from top to bottom) yellowisch brown sandy to silty mud, the Z-2 Santorini event layer, light (olive) gray to grayish sandy to silty mud and sapropel S1. This succession overlies a >4 m thick (not cored deeper) packet of relative structureless homogenous to only very slightly mottled light gray to light olive gray clayey silts that look very similar to Unit 4 recovered in the other study areas (e.g. study area C – see above) but mostly lack indications for stratigraphic succession such as sand or volcanic ash layers that could be correlated from core to core.

To tell from the 3.5.kHz seismic data, which clearly shows a rough surface and disturbed, chaotic internal signature that are not overlain significantly by post landslide parallel reflections (see Ch 6.3), the landslide should be rather young and the >4 m long gravity core should have reached the landslide deposits. However, from the sedimentological observations it only can be speculated whether

(i) the lower part of the succession corresponds to amalgamated muds of the landslide body that – in this case – would have occurred relatively short before the onset of Sapropel depositions ~10 ka B.P;

(ii) the sedimentary section represents a primary sedimentary deposits and, therefore, the landslide either is older and not reached with coring or, all cores were recovered from internally coherent slump, slide or out runner blocks. If the latter would be the true, the landslide can also be younger than S1 and Z-2.

Future investigations such as pore water chemistry or paleomagnetic analysis are need to test the hypothesis of having disturbed (pore water chemistry would not be in equilibrium) or distorted (there would be an anomaly in magnetic declination values) sediments in the cores.

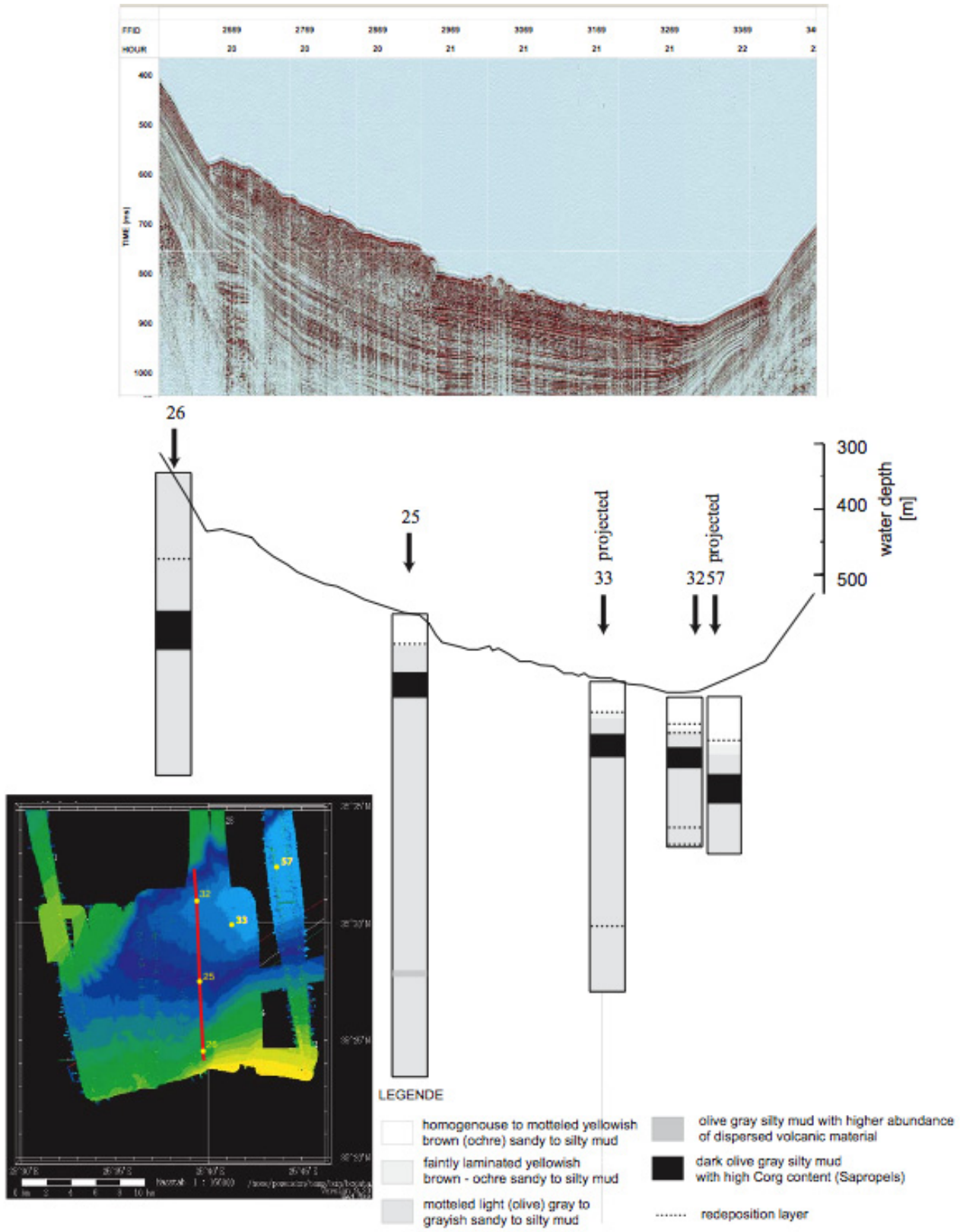


Fig. 50. Compilation of results from study area D across the landslide body (for location see Fig. 23): Seismic profile (top), gravity core information (middle), and bathymetric chart for location (bottom). See text for discussion.

Study area E: Scarp structure

Study area E represents a ~75 m high scarp clearly visibly in both multibeam bathymetry and seismic reflection data. It is interpreted to represent a major head scar of a relative young slope failure event (see Ch. 6.1, 6.3 and 6.4 above). Lithological and stratigraphic description of 5 core along two coring transects crossing the structure in NE to SW direction (both transect projected onto one section in Fig. 51) revealed no significant differences and show similar sedimentary succession as discussed above at study area D. Hence, no final conclusions can be drawn on timing and mechanism of scarp formation.

The only evidence for sediment remobilization along the head scarp are identified in core GeoB10458 that was recovered immediately below the scarp. Here, the sediment above sapropel S1 is characterised by abundant clasts and carbonate concretions and shows an elevated sedimentation rate. However, no clear redeposition event could be identified. The sediment here is interpreted as talus deposits at the foot of the head wall suggesting continuous diffusion of the steep head scarp wall.

Carbonate aggregates and carbonate crusts

Well- to friably-cemented carbonate clasts and nodules occur in all cores mainly in the upper part of the sedimentary section. They are largely more abundant in cores recovered on or immediately below steep slopes (e.g. cores GeoB10416, -17 and -18 in study area C and core -58 in study area E). Generally, they range in diameter from 0.5 to 10 mm, have irregular, subangular shapes with rounded to spherical botryoidal surfaces and are light beige to light brown in color. Exceptionally, in core GeoB10416(-1), -18 and -58 distinct indurated carbonated clasts of up to 5 cm in diameter have been recovered. They have dark gray to brown indurated surfaces (Fig. 47F). This clasts can be interpreted as reworked carbonate crust clasts and suggest favorable condition for starved sedimentation and hardground formation on the horseshoe-shaped bathymetric high in study area C and along or on top of the headwall scar in study area E. This interpretation is assured by the occurrence of a well-preserved coral test recovered in core 18 (deep water coral Caryophyllia, probably C. *calveri*, Fig. 47G), as corals also need a firm substrate to grow on. Most probably, starved sedimentation is a consequence of moderate to strong currents, that might occur in the Cretan Sea, as already suggested by Chronis et al. (2000), but – potentially – hard ground formation and deep water corals association in study area C

could also somehow be related to significantly elevated thermal gradient measured along the bathymetric high (see Ch. 6.1 above).

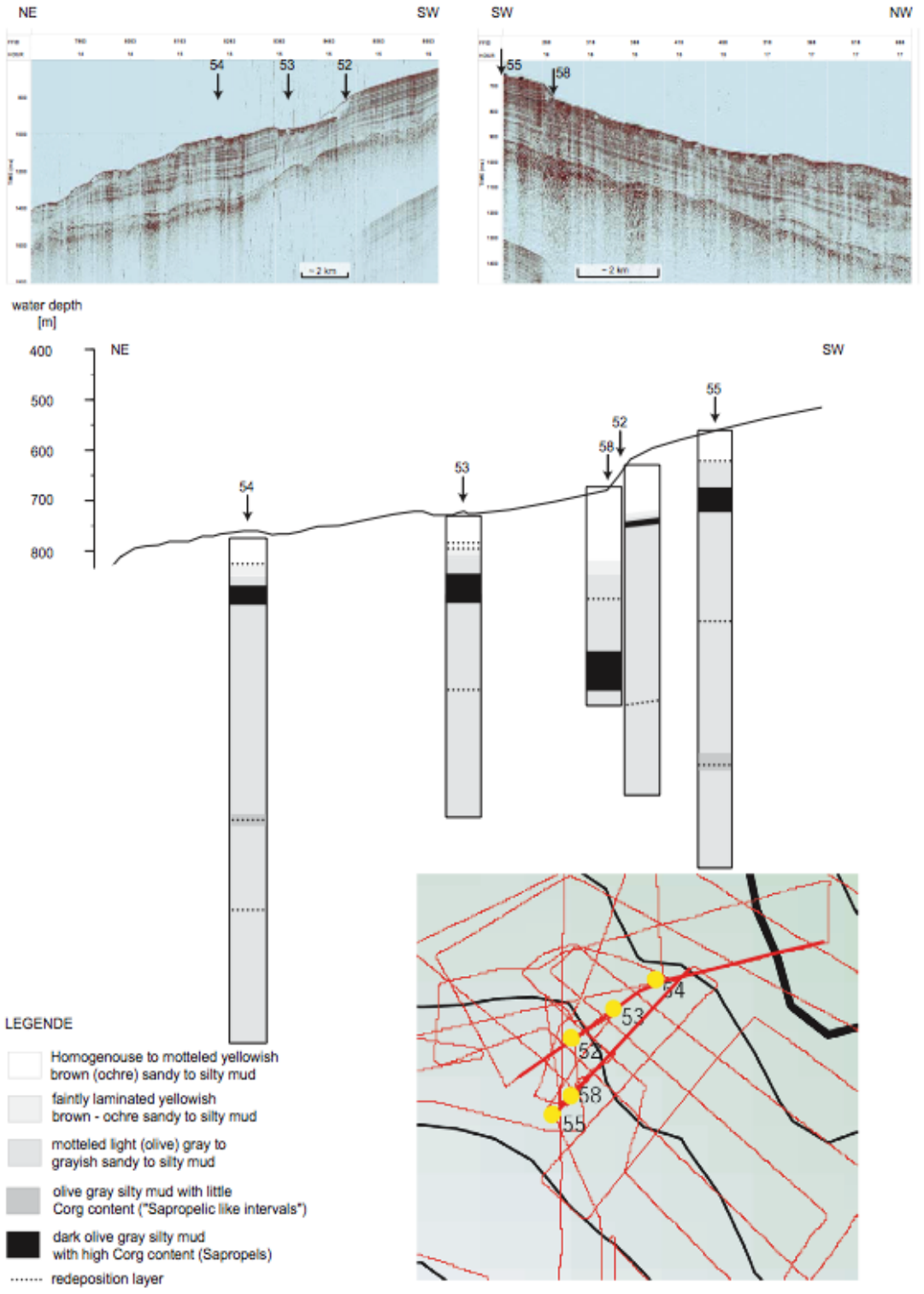


Fig. 51. Compilation of results from study area E: Two near-parallel seismic profiles (top), the gravity cores on those profiles (middle), and a bathymetric and track chart for location (bottom right). See text for discussion.

Special features

Exceptional sedimentary structures consisting of up to 30 cm long vertical cylindric tubes with diameters up to 3 cm have been identified in cores from study area D and E (Fig. 47H and I). They are filled with soupy, light (olive) gray, sandy to silty mud that often "flows out" during core opening – potentially indicating slightly over-pressured pore water conditions within these cylindrical channels. It remains unclear whether these structures are formed by bioturbation, or whether they represent fluid conduits and fluid escape structures somehow related to the landslide deposits identified in seismic cross sections in these two study areas (see Ch. 6.4 above).

6.8. Physical properties

(S. Stegmann, A. Kopf)

The database of physical properties of the *CRESTS* cores consists of the P-wave velocity, bulk density, magnetic susceptibility and fractional porosity, logged with the GEOTEK MSCL and the undrained shear strength S_u, measured with the fall cone penetrometer (Ch. 5.8.). The properties are described and briefly discussed for each study area (see Fig. 23) with cross-refering to the seismic data (Ch. 6.3) and sedimentological description (Ch. 6.7) above.

Study area A: Slide complex western Heraklion Basin

Sediments taken in study area A comprise of sandy to silty mud and are characterized by a density of 1.6 to 1.7 g/cm^3 and a fractional porosity of ca. 60 %. Undrained shear strength values (S_u) range between 4 and 12 kPa. Sandy layers correlate with an increase of the magnetic susceptibility up to 100 Si.

Study area B: Eastern Heraklion Basin

Here, the sediments in the upper 60 cm are very homogenous with a density of ~ 1.8 g/cm^3, a very low constant magnetic susceptibility (20 Si) and a fractional porosity of 0.5 %. S_u increases with a more or less linear trend with a significant step as a result of carbonate concretions.

Study area C: Horseshoe Structure

Generally, the thickness of the background sediment (sandy to silty mud) exceeds more than 2.5 m on the NNE flank of the horseshoe structure (GeoB10416, GeoB10417, GeoB10418). The

relative homogenous density of ~1.8 g/cm^3 shows variability in case of presence of carbonate concretions, pumices and mud clasts (?). These fragments cause an increase in S_u, ranging between ~10 and 30 kPa. The magnetic susceptibility of the background, matrix sediment is relative low (30 Si). Fractional porosity ranges between 50 and 60%. In the north-south-transect downslope from the top of the structure (GeoB10421, GeoB10424, GeoB10423) a high dynamic sedimentation is perceptible with an general increase of S_u (20-40 kPa). Significant peaks of S_u correlate again with the magnetic susceptibility in case of carbonate concretions and mud clusts in redeposition layers. Sapropel layers show an decrease in density (and an increase in fractional porosity, respectively).

Study area D: Slide Cretan Margin

Slide processes are reflected in the physical properties.

In the upslope, undisturbed material of core GeoB10426 consist on two distinct sedimentary packages. The upper section (0-1.8 m) are characterized by a mean density of 1.8 g/cm^3 and a porosity of 0.6%. Su increases linear with depth from 10 to 20 kPa. In the deeper section from 2-2.9 m a significant jump in density up to 2 g/cm^3, which comes along with a sudden decrease of porosity (mean 0.4 g/cm^3). S_u is less constant. Magnetic susceptibility is very constant.

The failed deposits of the Cretan Margin (cores GeoB10425, GeoB10432, GeoB10433 and GeoB10457) can be differed: material near the scar is similar to the non-failed sediments with a high density of 2 g/cm^3 (low porosity of 0.5%) and a linear increase of S_u. In contrast, the farthest removed deposits (cores GeoB10432, GeoB10433 and GeoB10457) reveal a process of homogenisation as a result of the displacement: density and porosity ranges about 1.8 g/cm^3 and 0.6%, respective. S_u is more or less constant, which exclude the condition of having been normaly consolidated.

Study area E: Scarp Structure

Physical properties of the relative young scarp structure (Ch. 6.7.) represent a very homogenous feature with an average density of 1.8 g/cm^3. Upslope (core GeoB10455) and downslope (core GeoB10454) sediments are characterized by a linear increase of S_u from 20 to 40 kPa. Sediments immediately near the scarp (core GeoB10452) and within the channel-like failure structure (Ch. 6.7.) (cores GeoB10458 and GeoB10453) evince a less pronounced linear trend of S_u.

Study area F: Kamilonisi Basin

In this location, only one core was taken. However, recovery was good and four units could be distinguished. The lithological units 1,2,3 (backround sediment, sandy to silty mud) are less dense (1.6 g/cm^3) than the silty mud with C_{org} content (Unit 4) and show an inverse feature of the fractional porosity. Units 1, 2 and 3 show a significantly higher magnetic susceptibility (see Appendix 9.3).

7. References

Aksu, A.E., Yasar, D. & Mudie, P.J. (1995). Paleoclimatic and paleoceanographic conditions leading to development of sapropel layer S1 in the Aegean Sea. *Palaeogeogr. Palaeoclimat. Palaeoecol*, 116: 71-101.

Anagnostou, C., Anastasakis, G., Goetz, G. & Lykousis, V. (1987). Morphotectonic structure of the Cretan Sea, based upon 3.5 kHz lithoseismic profiles. *Proceedings of the 2nd Hellenic symposium for oceanography and fisheries*, 515–519.

Altherr, R., Kreuzer, H., Wendt, I., Lenz, H., Wagner, G.A., Keller, J., Harre, W. & Hondorf, A. (1982). A late Oligocene/early Miocene high-temperature belt in the Attico-Cycladic crystalline complex (SE Pelagonian, Greece). *Geol. Jahrb.* CE23/97-164

Avigad, D. & Garfunkel, Z. (1991). Uplift and exhumation of high-pressure metamorphic terrains: The example of Cycladic blueshist belt (Aegean Sea). Tectonophysics, 188: 357-372

Bartole, R., Gatani, G., Lenardo, G., & Vinci, A. (1983). Tectonics and sedimentation of the southern Aegean sea. *Bolletino di Oceanologica Teorrica et Applicata*, *1*, 319–340.

Bohnhoff, M.; Rische, M.; Meier, T.; Becker, D.; Stavrakakis, G.; Harjes, H.-P. (2006): Microseismic activity in the Hellenic Volcanic Arc, Greece, with emphasis on the seismotectonic setting of the Santorini–Amorgos zone, Tectonophysics, 423, 1-4, 17-33.

Bullard, E. C., Heat Flow in South Africa, Proc. Roy. Soc. London A, 173, 474-502, 1939.

Camerlenghi A, Cita MB, Della Vedova B, Fusi N, Mirabile L, and Pellis G (1995) Geophysical evidence of mud diapirism on the Mediterreanean Ridge accretionary complex. *Marine Geophys. Res.*, 17: 115–141.

Chaumillon, E., and Mascle, J. (1997) From foreland to forearc domains: new multichannel seismic reflection survey of the Mediterranean Ridge accretionary complex (Eastern Mediterranean). *Mar. Geology*, 138: 237-259.

Chronis, G., Lykousis, V., Georgopoulos, D., Poulos, M., Zervakis, V. & Stavrakakis, S. (2000a). Suspended particulate matter and nepheloid layers in the southern margin of the Cretan Sea (NE Mediterranean): seasonal distribution and dynamics. *Progress in Oceanography*, *46*, 163–185.

Chronis, G., Lykousis, V., Anagnostou, C., Karageorgis, S., Stavrakakis, S. & Poulos, M. (2000b). Sedimentological processes in the southern margin of the Cretan Sea (NE Mediterranean). *Progress in Oceanography*, 46: 143-162.

Cramp, A., & O'Sullivan, G. (1999) Neogene sapropels in the Mediterranean: a review. *Marine Geology*, 153, 11-28

De Rijk, A. Hayes and E. J. Rohling, (1999) Eastern Mediterranean sapropel S1 interruption: an expression of the onset of climatic deterioration around 7 ka BP, *Marine Geology*, Volume 153, Issues 1-4, , Pages 337-343.

Deyhle, A. & Kopf, A. (2001) Deep fluids and ancient pore waters at the backstop: Stable isotope systematics (C, B, O) of mud volcano deposits on the Mediterranean Ridge accretionary wedge. Geology, 29/11: 1031-1034.

Dominey-Howes, D., Cundy, A. & Croudace, I. (2000). High energy marine flood deposits on Astypalaea Island, Greece: possible evidence for the AD 1956 southern Aegean tsunami. *Mar. Geol.,* 163: 303-315

Emeis K-C, and Shipboard Scientific Party (1996) Proceedings ODP, Initial Reports, 160, College Station, TX (ODP): 972 pp

Emeis, K.C. & Sakamato, T. (1998) The sapropel theme of Leg 160. In: Robertson, A.H.F., et al. (eds.), Emeis K-C, and Shipboard Scientific Party (1996) Proceedings ODP, Sci. Results, 160, College Station, TX (ODP): 29-36.

Fassoulas, C, Kilias, A, and Mountrakis, D (1994) Postnappe stacking extension and exhumation of high-pressure/low-temperature rocks in the island of Crete; Greece. Tectonics, 13/1: 127-138

Fitzsimons MF, Dando PR, Hughes JA, Thiermann F, Akoumianaki I, and Pratt SM (1997) Submarine hydrothermal brine seeps off Milos, Greece: Observations and geochemistry. Mar. Chemistry, 57: 325-340.

Georgopoulos, D., Chronis, G., Zervakis, V., Lykousis, V., Poulos, S., Iona, A., & Kioroglou, S. (2000) Hydrology and circulation in the Southern Cretan Sea during the CINCS experiment (May 1994– September 1995). *Progress in Oceanography*, *46*, 89–112.

Geraga, M., Tsaila-Monopolis, S., Ioakim, C.,Papatheodorou, G. and Ferentinos, G. (2000): Evaluation of palaeoenvironmental changes during the last 18,000 years in the Myrtoon basin, SW Aegean. *Palaeogeography, Palaeoclimatology, Palaeoecology* 156, 1–17.

Giresse, P., Buscail R., Charrière B., (2003) Late Holocene multisource material input into the Aegean Sea: depositional and post-depositional processes, *Oceanologica Acta*, Volume 26, Issues 5-6, Pages 657-672.

Harjes, H.-P., M. Janik, T. Büsselberg, M. Knapmeyer, H. Schmidt, J. Schweitzer & A. Vafidez (1997) Structure and dynamics of the Hellenic subduction zone under Crete from seismic array measurements, Abstract IASPEII 97, 18, Thessaloniki.

Halbach. P.E., Anastakis, G.C., Maggiulli, M., Vale, C., Quednau, M.S. Ferreira, A.M. & Halbach, M. (1994) Multi-source material input into different sedimentary environments at the southern margin of the Aegean microplate: depositional and postdepositional characteristics. Symp. Medit. Target Progr., Barcelona, 169-174.

Hansbo, S. (1957) A new approach to the determination of the shear strength of clay by the fall-cone test. *Geotechnical Institute Proceedings* no. 14, Stockholm 1957, p 50.

Hartmann, A. & Villinger, H., (2002) Inversion of marine heat flow measurements by expansion of the temperature decay function*, Geophys. J. Int*., 148, 628–636.

Hsü, K, Montardert, L. et al. (1978) *Initial Reports of the Deep Sea Drilling Project*, Volume 42, Part 1.

Jongsma, D. (1975) A marine geophysical survey of the Hellenic Arc. Ph.D Thesis, Cambridge University, 215pp.

Keller, J., Ryan, W.B., Ninkowitch, D., Altherr, R. (1978) Explosive volcanic activity in the Mediterranean over the past 200,000 years as recorded in deep-sea sediments. *Geol. Soc. Am. Bull.* 89, 591-604.

Kopf, A., Robertson, A.H.F., Clennell, M.B., and Flecker, R., 1998. Mechanisms of mud extrusion on the Mediterranean Ridge Accretionary Prism. *Geo-Marine Letters*, 18: 97-114.

Kopf, A., Robertson, A.H.F., Screaton, E.J., Mascle, J., Parkes, R.J., Foucher, J.P., DeLange, G.J., Stöckhert, B. & Sakellariou, D. (1999) Backstop hydrogeology of a wide accretionary complex south of Crete, Eastern Mediterranean Sea. Full drilling proposal (#555) for the Ocean Drilling Program, 25p.

Kopf, A., Klaeschen, D. & Mascle, J. (2001) Extreme efficiency of mud volcanism in dewatering accretionary prisms. *Earth Planet. Sci. Letters*, 189/3-4: 295-313.

Kopf, A., Mascle, J., and Klaeschen, D. (2003) The Mediterranean Ridge: A mass balance across the fastest growing accretionary complex on Earth. *J. Geophys. Research* 108: 2372-2403, doi:10.1029/2001JB000473.

Kopf, A., Bohnhoff, M., (2006) Amphibic scientific drilling transect across the Hellenic subduction zone (HSZ). Proc. *EGU*, Vienna, April 2006, 1pp.

Kroon, D., Alexander, I., Little, M., Lourens, L.J., Matthewso, A., Robertson, A.H.F. & Sakamoto, T. (1998) Oxygen isotope and sapropel stratigraphy in the Eastern Mediterranean during the last 3.2 Million years. In: Robertson, A.H.F., et al., *Proc. ODP, Scientific Results*, College Station, TX (ODP), 160: 181-189.

Lourens, L.J.A., Antonarakou, F.J., Hilgen, F.J., Van Hoof, A.A.M., Vergnaud-Grazzini, C., Zachariasse, W.J. (1996) Evaluation of the Plio-Pleistoncene astronomical timescale. *Paleooceanography 11, 391-431*

Le Pichon, X., & Angelier, J. (1979) The Hellenic Arc and Trench system: a key to the neotectonic evolution of the Eastern Mediterranean area. *Technophysics*, *6*: 1–42.

Lunne, T., P.K. Robertson & J.J.M. Powell (1997) *Cone Penetrating Testing In Geotechnical Practice*, Spon Press, 312 pp.

Lykousis, V., Anagnostou, C., Anastasakis, G., Pavlakis, P., Roussakis, G. & Alexandri, M. (1995) Quaternary sedimentary history and neotectonic evolution of the eastern part of Central Aegean Sea. *Mar. Geol.*, 186:281-298

Lykousis, V., Roussakis, G., Alexandri, M., Pavlakis, P & Papoulia, I. (2002) Sliding and regional slope stability in active margins: North Aegean Trough (Mediterranean). *Mar. Geol.*, 186:281-298

Manakou, M.V. & Tsapanos, T.M. (2000) Seismicity and seismic hazard parameters evaluation in the island of Crete and the surrounding area inferred from mixed data files. *Tectonophysics* 321: 157-178.

Mascle, J., & Martin, L. (1990) Shallow structure and recent evolution of the Aegean Sea: a synthesis based on continuous reflection profiles. *Marine Geology*, *94*, 271–299.

McKenzie, D. P. (1978). Active tectonics of the Alpine–Himalayan belt: the Aegean Sea and surrounding regions. *Geophysical Journal of the Royal Astrological Society*, *55*, 217–254.

Mercier, J. L., Delibasis, N., Gauthier, A., Jarrige, J., Lemeille, F., Philip, H., Sorbrier, M., & Sorel, D. (1979) La neotectonique de l'Arc Egeen. *Revue Geologie Dynamique et de Geographie Physique*, *21*, 67–92.

Meier, T., Rische, M., Endrun, B., Vafidis, A. & Harjes, H.-P. (2004) Seismicity of the Hellenic subduction zone in the area of western and central Crete observed by temporary local seismic networks. *Tectonophysics,* 383: 149-169.

Mienert, J., Berndt, C., Laberg, J.S. & Vorren, T.O., (2003) Slope Instability of Continental Margins. In: *Ocean Margin Systems, eds. Wefer et al., Springer Verlag, New York,* p. 179-193.

Muerdter, D.R., Kennett, J.P., Thunell, R.C. (1984) Late Quaternary sapropels sediments in the eastern Mediterranean Sea: faunal variations and chronology. *Quart. Res.* 21, 385-403.

Perissoratis, C. & Papadopoulos, G. (1999) Sediment instability and slumping in the southern Aegean Sea and the case history of the 1956 tsunami. *Marine Geology*, 161: 287-305.

Pfender, M., Villinger, H., 2002. Miniaturized data logger for deep sea sediment temperature measurements. *Mar. Geol*. 186, 557– 570.

Pichler H. & Friedrich W. (1976) Radiocarbon-Dates of Santorini Vorlcanics *Nature* 262 (5567): 373-374

Rossi, S. & Mac Gan scientific party (1986). Mate di creta e Basino di Antalya: entrabe sono zone di retroarco? Obiettivi e risultati preliminari dela crociera Mac Gan '86. *Geological Society of Italy*, *9*, 11–14.

Rossi, S., Got, H., Taviani, M. & Martin, L. (1988) Elements structuraux de la mer de Crete orientale et du golfe d'Antalya (Me´diterrane´e Orientale). *Memoires of the Geological Society of Italy*, *36*, 153–164.

Rothwell, R.G. (1989) *Identification of Minerals and Mineraloids in Marine Sediments,* London/New York (Elsevier)

Ryan, W. B. F. (1972) Stratigraphy of Late Quaternary sediments in the Eastern Mediterranean. In D. J. Stanley, *The Mediterranean Sea: a natural sedimentation laboratory.* In: Stroudsburg P.A. (ed.), Dowden, Hutchinson and Ross: 149–169.

Stavrakakis, S., Chronis, G., Tselepides, A., Heussner, S., Monaco, A. & Abbasi, A. (2000) Downward fluxes of settling particles in the deep Cretan Sea (NE Mediterranean). *Progress in Oceanography*, *46*, 217–240.

Stegmann, S., Villinger, H. & Kopf, A. (2006) Design of a Modular, Marine Free-Fall Cone Penetrometer. *Sea Technology,* 47/2: 27-33.

Stiros, S.C., 2001. The AD 365 Crete earthquake and possible seismic clustering during the fourth to sixth centuries AD in the eastern Mediterranean: a review of historical and archaeological data. *J. Struct. Geol*. 23: 545-562

Thomson, S.N., Stöckhert, B. & Brix, M.R . (1998) Thermochronology of the high-pressure metamorphic rocks of Crete, Greece: Implications for the speed of tectonic processes. Geology, 26/3: 259-262

Warren, P. M., PUCHELT H., (1990) "Stratified pumice from Bronze age Knossos" in D.A. Hardy et al (ed.s), *'Thera and the Aegaean World III'*, Vol. 3, 71-81, The Thera Foundation

Wentworth, C.K. (1922) A scale of grade and class terms of clastic sediments. *J. Geol.,* 30: 377-392.

Wessel, P., and W. H. F. Smith, 1991, Free Software Helps Map and Display Data, EOS Trans., AGU, 72 (41), p. 441.

Wood, D.M. (1985) Some fall-cone tests. *Geotechnique* 35, p. 64-68.

Yelnikov, I. N. (1990). Acoustic relief structure of the acoustic basement and sedimentary cover in the Cretan Basin (Aegean Sea). *Oceanology*, *30*, 465–471.

Zahn, R., and Shipboard Scientific Party (1996) *Proceedings ODP, Initial Reports*, 161, College Station, TX (ODP): 1023 pp.

8. Acknowledgements

We thank Master Michael Schneider for his relaxed, expert way to steer *Poseidon* through the Eastern Mediterranean waters. Thanks go also to the crew of R/V *Poseidon* for their friendly support and efficient technical assistance with the various devices used.

Our colleagues in Greece, namely Dimitris Sakellariou and Vasilios Lykousis from the Hellenic Centre for Marine Research, are acknowledged for their discussion of scientific targets and help with the Greek authorities for receiving a research permission.

Thanks go also to the German Ministry for Education and Research (BMBF) for providing the funds to realise *CRESTS*. Additional funding was provided by the German Science Foundation (to RCOM, Bremen), for which we are very grateful.

We want to thank our colleague Katrin Huhn for having put enormous effort into the *CRESTS* proposal and cruise preparation. This report is dedicated to her newborn son Ole Magnus.

9. Appendices

9.1 Station list

9.2 Lithologs and core photographs

9.3 MSCL data logs (electronic version only)

9.4 Press coverage

9.1 Station list

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
	29.04.2006	**07:00**	**Beginn der Forschungs- und Stationsarbeiten**																
268	29.04.2006	07:03	Aussetzen Streamer	35° 26,92' N	025° 03,86' E	287,0	± 330	± 1,7	320,8	0,6	1009,3	b/c	330 / 09	15,6	17,1				Profil-Nr. Geophysik: GeoB06-128
		07:18	Airgun z/W	35° 27,36' N	025° 03,42' E	321,0	± 328	± 2,7	335,1	0,9	1009,4	b/c	339 / 09	15,5	17,0				
		07:43	Katamaran z/W	35° 28,15' N	025° 02,97' E	387,0	± 011	± 2,0	9,6	0,8	1009,6	b/c	327 / 09	15,6	17,1				
		08:06	Airgun a/Deck	35° 28,92' N	025° 03,13' E	503,0	± 007	± 2,0	8,4	0,1	1009,7	b/c	312 / 09	15,6	17,3				
		08:09	Katamaran a/Deck	35° 29,03' N	025° 03,15' E	504,0	± 012	± 2,0	33,6	0,9	1009,7	b/c	311 / 09	15,7	17,3				
		08:30	Katamaran z/W	35° 29,74' N	025° 03,73' E	536,0	± 033	± 3,0	95,0	3,2	1009,8	b/c	302 / 08	15,7	17,4				
		09:40	Airgun z/W	35° 29,46' N	025° 07,63' E	456,0	± 130	± 3,2	179,1	1,6	1010,0	b	335 / 09	15,8	17,5				
		10:05	1. Schuss	35° 27,86' N	025° 07,66' E	378,0	± 270	± 3,2	302,0	0,6	1010,0	b	347 / 10	16,0	17,5				
		10:20	Beginn Profil 1	35° 28,16' N	025° 07,07' E	400,0	± 330	± 4,0	357,9	11,6	1010,0	b	338 / 10	15,9	17,6				
		12:56	Ende Profil 1	35° 39,78' N	025° 06,54' E	908,0	± 358	± 4,0	358,0	0,2	1010,4	b	338 / 08	15,9	17,6				
		13:03	Katamaran a/Deck	35° 40,01' N	025° 06,53' E	918,0	± 359	± 1,5	270,0	0,0	1010,4	b	331 / 10	15,8	17,5				
		13:04	Airgun a/Deck	35° 40,01' N	025° 06,53' E	918,0	± 000	± 2,0	359,2	0,6	1010,4	b	332 / 10	15,8	17,5				
		13:20	Streamer a/Deck	35° 40,59' N	025° 06,52' E	967,0	± 359	± 1,9	358,0	12,4	1010,3	b	329 / 08	15,9	17,7				
269	29.04.2006	15:05	Schiff @ Station	35° 52,96' N	025° 05,99' E	1823,0	± 004	± 0,0	270,0	0,0	1010,3	b	313 / 06	16,0	17,4			W 2	CTD # 01. CTD #: GeoB10401-1
		15:06	CTD/Rosette z/Wasser	35° 52,96' N	025° 05,99' E	1822,0	± 002	± 0,0	9,2	0,1	1010,3	b	315 / 07	15,9	17,4				Slack 0,5 m/s - 1,0 m/s
		15:17	Hieven	35° 53,06' N	025° 06,01' E	1820,0	± 004	± 0,0	18,0	0,1	1010,4	b	320 / 07	16,1	17,3	361	361		Heave up mit 0,5 m/s - 1,0 m/s
		15:25	CTD/Rosette a/Deck	35° 53,11' N	025° 06,03' E	1823,0	± 358	± 0,0	270,0	0,0	1010,5	b	325 / 07	16,1	17,4				
		15:26	Ende Station	35° 53,11' N	025° 06,03' E	1824,0	± 358	± 0,0	179,4	14,3	1010,5	b	327 / 06	16,1	17,4				
270	29.04.2006	18:13	Schiff @ Station	35° 38,82' N	025° 06,20' E	850,0	± 009	± 2,5	270,0	0,0	1011,1	b/c	310 / 08	16,1	17,4				Forts. Profil # 1. CTD #: GeoB10401-2
		18:14	Streamer z/W	35° 38,82' N	025° 06,20' E	850,0	± 009	± 2,5	11,1	0,3	1011,1	b/c	310 / 08	16,1	17,4				
		18:20	Airgun z/W	35° 39,11' N	025° 06,27' E	861,0	± 012	± 2,6	11,5	0,2	1011,1	b/c	305 / 08	16,2	17,6				
		18:25	Katamaran z/W	35° 39,35' N	025° 06,33' E	874,0	± 012	± 2,6	13,8	0,3	1011,2	b/c	307 / 08	16,0	17,6				
		18:32	Profilanfang/Forts. # 1	35° 39,68' N	025° 06,43' E	894,0	± 015	± 3,9	3,9	31,4	1011,3	b/c	296 / 08	16,2	17,5				
	30.04.2006	01:43	Profilende # 1	36° 11,02' N	025° 09,07' E	909,0	± 004	± 4,2	270,0	0,0	1011,0	b/c	086 / 06	15,1	16,4				Forts. Profil # 1 ENDE
271	30.04.2006	01:44	Beginn Profil # 2	36° 11,02' N	025° 09,07' E	909,0	± 096	± 4,3	90,5	9,6	1011,0	b/c	086 / 06	15,1	16,4				Profil: Profil-Mr. Geophysik: GeoB06-129/131
		03:55	Profilende # 2	36° 10,93' N	025° 21,02' E	950,0	± 090	± 4,5	270,0	0,0	1011,1	b/c	081 / 05	15,1	16,9				(seismic reflection profiles)
272	30.04.2006	03:56	Beginn Profil # 3	36° 10,93' N	025° 21,02' E	950,0	± 180	± 4,5	175,5	18,1	1011,1	b/c	081 / 05	15,1	17,0				Profil
		08:03	Unterbr. Profil # 3	35° 52,86' N	025° 22,77' E	1826,0	± 175	± 4,1	153,7	0,3	1012,1	c/o	089 / 07	15,7	17,1				Unterb. Profil # 3. CTD#: GeoB10402-1
		08:07	Katamaran a/Deck	35° 52,63' N	025° 22,91' E	1827,0	± 177	± 2,7	174,2	0,2	1012,2	c/o	083 / 07	15,9	17,0				
		08:13	Airgun a/Deck	35° 52,39' N	025° 22,94' E	1830,0	± 180	± 2,2	173,8	0,3	1012,2	c/o	091 / 07	15,8	17,0				
		08:22	Streamer a/Deck	35° 52,09' N	025° 22,98' E	1835,0	± 180	± 2,0	351,1	0,9	1012,0	c/o	092 / 07	15,6	16,9				
273	30.04.2006	08:42	Schiff @ Station	35° 53,02' N	025° 22,80' E	1831,0	± 084	± 0,0	270,0	0,0	1012,2	c/o	083 / 08	15,7	17,0			W 2	Calibrating Multibeam: GeoB104-2/3 (4 profiles
		08:43	CTD/Rosette z/Wasser	35° 53,02' N	025° 22,80' E	1831,0	± 084	± 0,0	141,0	0,1	1012,2	c/o	083 / 08	15,7	17,0	10			Fieren 0,5 m/s - 1,0 m/s
		09:19	Hieven	35° 52,93' N	025° 22,89' E	1828,0	± 050	± 0,0	58,3	0,1	1012,1	o	086 / 06	16,0	17,1	1800	1800		Hieven mit 0,5 m/s - 1,0 m/s
		09:53	CTD/Rosette a/Deck	35° 52,97' N	025° 22,97' E	1774,0	± 010	± 0,0	303,6	0,1	1012,2	o	074 / 05	15,9	17,2				
		11:00	Ende Station	35° 53,04' N	025° 22,84' E	1798,0	± 360	± 0,0	251,1	0,2	1012,2	o	078 / 07	16,1	17,2				
274	30.04.2006	11:12	Beginn Kalibrierg. F-Lot	35° 52,99' N	025° 22,66' E	1829,0	± 270	± 4,0	9,4	0,8	1012,3	o	079 / 07	16,2	17,4				
		16:06	Ende Kalibrierung F-Lot	35° 53,77' N	025° 22,82' E	1830,0	± 090	± 4,0	116,3	0,0	1012,5	b/c	112 / 08	16,5	17,4				
275	30.04.2006	16:11	Schiff @ Station	35° 53,75' N	025° 22,87' E	1832,0	± 141	± 0,0	247,6	0,0	1012,7	b/c	107 / 08	16,4	17,4			W 3	Gravity Core #: GeoB10404-1
		16:16	Schwerelot zu Wasser	35° 53,74' N	025° 22,84' E	1831,0	± 130	± 0,0	170,8	0,1	1012,7	b/c	122 / 08	16,5	17,3				Fieren 0,5 m/s - 1,5 m/s
		16:25	BOKO / Hieven	35° 53,69' N	025° 22,85' E	1830,0	± 113	± 0,0	141,0	0,0	1012,7	b/c	118 / 08	16,5	17,3	0	0		Hieven mit 0,5 m/s - 1,5 m/s
		16:31	Schwerelot an Deck	35° 53,68' N	025° 22,86' E	1830,0	± 088	± 0,0	270,0	0,0	1012,8	b/c	126 / 08	16,4	17,4				Station abgebrochen, techn. Problem W3
		16:32	Ende Station	35° 53,68' N	025° 22,86' E	1830,0	± 088	± 0,0	270,0	0,0	1012,8	b/c	126 / 08	16,4	17,4				
275-2	30.04.2006	16:33	Schiff @ Station	35° 53,68' N	025° 22,86' E	1830,0	± 085	± 0,0	270,0	0,0	1012,8	b/c	128 / 08	16,4	17,3			W 3	
		16:34	Schwerelot zu Wasser	35° 53,68' N	025° 22,86' E	1830,0	± 086	± 0,0	101,6	0,0	1012,8	b/c	128 / 08	16,4	17,3				Fieren 0,5 m/s - 1,5 m/s
		16:59	BOKO / Hieven	35° 53,67' N	025° 22,92' E	1831,0	± 085	± 0,0	270,0	0,0	1013,1	c	125 / 07	16,6	17,3	1981	1981		Hieven mit 0,5 m/s - 1,5 m/s
		17:38	Schwerelot an Deck	35° 53,67' N	025° 22,90' E	1831,0	± 069	± 0,0	180,0	0,0	1013,3	c	097 / 06	16,8	17,2				
		17:45	Ende Station	35° 53,66' N	025° 22,90' E	1831,0	± 069	± 0,0	344,1	0,4	1013,3	c	097 / 06	16,8	17,2				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
276	30.04.2006	18:02	Schiff @ Station	35° 54,03' N	025° 22,77' E	1832,0	± 174	± 3,0	270,0	0,0	1013,4	c	093 / 06	16,8	17,2				Profil-Mr. Geophysik: GeoB06-132
		18:03	Streamer z/W	35° 54,03' N	025° 22,77' E	1832,0	± 174	± 3,0	174,8	0,6	1013,4	c	093 / 06	16,8	17,2				(seismic reflection profiles)
		18:17	Airgun z/W	35° 53,41' N	025° 22,84' E	1829,0	± 170	± 2,3	170,8	0,2	1013,6	c	101 / 06	16,7	17,2				
		18:21	Katamaran z/W	35° 53,26' N	025° 22,87' E	1829,0	± 170	± 1,9	169,2	0,2	1013,6	c	105 / 06	16,6	17,2				
		18:25	Forts. Profil # 3	35° 53,09' N	025° 22,91' E	1830,0	± 172	± 3,5	174,9	2,4	1013,6	c	094 / 06	16,7	17,3				
		19:00	Pos. Report	35° 50,65' N	025° 23,18' E	1757,0	± 181	± 4,2	175,4	28,6	1013,9	c/b	113 / 05	16,9	17,2				
	01.05.2006	01:54	Ende Profil # 3	35° 22,19' N	025° 26,00' E	110,0	± 180	± 4,2	357,5	0,2	1013,9	c	257 / 06	16,1	17,7				Profil-Mr. Geophysik: GeoB06-133
277	01.05.2006	02:10	Beginn Profil # 4	35° 22,38' N	025° 25,99' E	120,0	± 060	± 4,0	65,2	35,7	1013,9	c	258 / 05	16,1	17,7				(seismic reflection profiles)
		10:43	Ende Profil # 4	35° 37,38' N	026° 05,80' E	2217,0	± 065	± 4,1	77,7	0,4	1015,2	bc	077 / 07	16,4	17,8				
		10:53	Katamaran a/D	35° 37,46' N	026° 06,25' E	2217,0	± 115	± 2,0	147,0	0,1	1015,2	bc	077 / 07	16,4	17,8				
		10:56	Airgun a/D	35° 37,41' N	026° 06,29' E	2217,0	± 125	± 2,0	123,5	0,1	1015,2	bc	077 / 07	16,4	17,8				
		11:03	Streamer a/D	35° 37,34' N	026° 06,42' E	2215,0	± 125	± 1,5	270,0	0,0	1015,2	bc	064 / 07	16,6	18,0				
		11:04	Ende Station	35° 37,34' N	026° 06,42' E	2215,0	± 125	± 1,5	259,0	2,2	1015,2	bc	064 / 07	16,6	18,0				
278	01.05.2006	11:32	Beginn Station	35° 36,92' N	026° 03,77' E	2201,0	± 125	± 0,0	270,0	0,0	1015,3	bc	065 / 07	16,8	17,9			W 3	Gravity Core #: GeoB10405-1
		11:33	SL 3.5m z/W	35° 36,92' N	026° 03,77' E	2201,0	± 125	± 0,0	151,5	0,2	1015,3	bc	065 / 07	16,8	17,9				Fieren 0,5 m/s - 1,5 m/s
		12:06	Hieven	35° 36,71' N	026° 03,91' E	2197,0	± 140	± 0,0	127,8	0,3	1015,2	c	059 / 07	16,8	17,8	2100	2382		Hieven mit 0,5 m/s - 1,5 m/s
		12:58	SL 3.5m a/D	35° 36,54' N	026° 04,18' E	2192,0	± 140	± 0,0	270,0	0,0	1015,2	c	043 / 07	16,9	17,8				BOKO 2361 m
		16:00	Ende Station	35° 36,54' N	026° 04,18' E	2192,0	± 140	± 0,0	311,7	1,2	1015,2	c	043 / 07	16,9	17,8				
279	01.05.2006	14:14	Schiff @ Station	35° 37,35' N	026° 03,06' E	2206,0	± 090	± 2,5	270,0	0,0	1015,4	bc	030 / 10	16,9	17,9				Profil-Nr. Geophysik: GeoB06-134
		14:15	Streamer z/W	35° 37,35' N	026° 03,10' E	2206,0	± 090	± 3,0	87,3	0,2	1015,4	bc	030 / 10	16,9	17,9				(seismic reflection seismics)
		14:18	Airgun z/W	35° 37,36' N	026° 03,36' E	2211,0	± 090	± 3,0	87,3	0,2	1015,4	bc	030 / 10	16,9	17,9				
		14:22	Katamaran z/W	35° 37,37' N	026° 03,62' E	2211,0	± 090	± 3,0	89,3	1,7	1015,3	bc	041 / 10	16,9	17,8				
		14:50	Forts. Profil # 4	35° 37,39' N	026° 05,76' E	2216,0	± 065	± 4,0	65,1	21,7	1015,6	bc	039 / 09	17,0	17,9				
		20:06	Ende Profil # 4	35° 46,50' N	026° 29,98' E	943,0	± 065	± 4,0	20,0	5,0	1016,8	b/c	007 / 8	16,3	17,2				
280	01.05.2006	21:25	Beginn Profil # 5	35° 51,22' N	026° 32,10' E	771,0	± 303	± 4,0	303,3	6,6	1016,9	b/c	004 / 10	16,5	17,4				Profil-Nr. Geophysik: GeoB06-135
		23:01	Profilende	35° 54,85' N	026° 25,27' E	805,0	± 300	± 4,1	270,0	0,0	1016,4	c	333 / 12	16,3	17,2				(seismic reflection seismics)
281	01.05.2006	23:01	Beginn Profil # 6	35° 54,85' N	026° 25,27' E	805,0	± 270	± 4,1	269,9	59,3	1016,4	c	333 / 12	16,3	17,2				Profil-Nr. Geophysik: GeoB06-136
		13:32	Unterbr. Profil # 6	35° 54,74' N	025° 12,09' E	1832,0	± 180	± 4,0	270,0	0,0	1018,3	c	327 / 18	16,5	17,7				(seismic reflection seismics)
282	02.05.2006	13:33	Beginn Kalibrierg. F-Lot	35° 54,74' N	025° 12,09' E	1832,0	± 180	± 4,0	108,9	1,6	1018,2	bc	326 / 17	16,4	17,6				Profil-Nr. Geophysik: GeoB06-137
		14:54	Ende Kalibrierung F-Lot	35° 54,21' N	025° 14,00' E	1831,0	± 090	± 4,0	59,3	1,2	1018,0	bc	350 / 17	16,3	17,5				(seismic reflection seismics)
283	02.05.2006	15:34	Forts. Profil # 6	35° 54,84' N	025° 15,31' E	1827,0	± 270	± 4,0	270,0	20,4	1017,7	bc	346 / 18	16,3	17,6				Profil-Nr. Geophysik: GeoB06-138
		20:19	Ende Profil # 6	35° 54,85' N	024° 50,11' E	1485,0	± 270	± 4,0	270,0	0,0	1018,9	b	331 / 12	15,8	18,0				(seismic reflection seismics)
284	02.05.2006	20:19	Beginn Profil # 7	35° 54,85' N	024° 50,11' E	1485,0	± 000	± 3,2	359,0	5,2	1018,9	b	331 / 12	15,8	18,0				Profil-Nr. Geophysik: GeoB06-139
		21:39	Ende Profil # 7	36° 00,03' N	024° 50,00' E	1235,0	± 360	± 4,1	270,0	0,0	1018,5	b	335 / 13	15,9	17,7				(seismic reflection seismics)
285	02.05.2006	21:39	Beginn Profil # 8	36° 00,03' N	024° 50,00' E	1235,0	± 090	± 3,9	89,2	22,3	1018,5	b	335 / 13	15,9	17,7				
	03.05.2006	03:11	Ende Profil # 8	36° 00,33' N	025° 17,58' E	1784,0	± 090	± 4,0	270,0	0,4	1016,6	b	338 / 20	15,2	17,1				
		03:17	Katamaran a/D	36° 00,33' N	025° 18,02' E	1800,0	± 090	± 2,0	95,9	0,1	1016,7	b	332 / 18	15,7	17,2				
		03:19	Airgun a/D	36° 00,32' N	025° 18,14' E	1800,0	± 090	± 2,0	95,9	0,3	1016,7	b	333 / 18	15,6	17,1				
		03:27	Streamer a/D	36° 00,29' N	025° 18,50' E	1788,0	± 090	± 2,0	270,0	0,0	1016,7	b	334 / 18	15,5	17,1				
		03:28	Ende Station	36° 00,29' N	025° 18,50' E	1788,0	± 090	± 2,0	270,2	8,4	1016,7	b	334 / 18	15,5	17,1				
286	03.05.2006	05:10	Beginn Station	36° 00,32' N	025° 08,15' E	1768,0	± 353	± 0,0	270,0	0,0	1017,5	b/c	316 / 17	15,1	17,2			W 3	Gravity Core #: GeoB10406-1
		05:24	SL 3.5m z/W	36° 00,32' N	025° 08,16' E	1769,0	± 334	± 0,0	270,0	0,0	1017,5	b/c	339 / 19	15,1	17,1				Fieren 0,5 m/s - 1,5 m/s
		05:51	Hieven	36° 00,32' N	025° 08,15' E	1768,0	± 352	± 0,0	141,0	0,0	1017,6	b/c	348 / 23	14,9	17,1	1919	1919		Hieven mit 0,5 m/s - 1,5 m/s
		05:57	Winde stop	36° 00,31' N	025° 08,16' E	1768,0	± 348	± 0,0	270,0	0,0	1017,8	c	350 / 23	15,0	17,1				
		06:01	Fieren	36° 00,31' N	025° 08,16' E	1768,0	± 348	± 0,0	321,0	0,0	1017,8	c	350 / 23	15,0	17,1				Fieren 0,5 m/s - 1,5 m/s
		06:06	Hieven	36° 00,32' N	025° 08,15' E	1769,0	± 349	± 0,0	112,4	0,0	1017,8	c	347 / 23	15,0	17,3	1923	1923		Hieven mit 0,5 m/s - 1,5 m/s
		06:47	SL 3.5m a/D	36° 00,31' N	025° 08,18' E	1768,0	± 348	± 0,0	180,0	0,0	1017,9	c	334 / 23	14,9	17,1				
		06:50	Ende Station	36° 00,32' N	025° 08,18' E	1768,0	± 335	± 0,0	252,8	0,0	1017,9	c	334 / 23	14,9	17,1				
286-2	03.05.2006	06:56	Schiff @ Station	36° 00,31' N	025° 08,14' E	1854,0	± 350	± 0,0	180,0	0,0	1017,7	c	345 / 24	14,7	17			W 2	CPT #: GeoB10406-2

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		06:59	CPT z/Wasser	36° 00,32' N	025° 08,14' E	1768,0	± 348	± 0,0	321,0	0,0	1017,7	c	338 / 24	15,2	17,1	20			Fieren 0,5 m/s - 1,0 m/s
		07:18	Hieven	36° 00,33' N	025° 08,13' E	1767,0	± 341	± 0,0	121,7	0,0	1017,8	c	343 / 24	14,8	17,1	532	532		Hieven mit 0,5 m/s - 1,0 m/s
		07:30	CPT @ Deck	36° 00,32' N	025° 08,15' E	1768,0	± 341	± 0,0	270,0	0,0	1017,8	c	332 / 24	14,8	17,0				
		07:30	Ende Station	36° 00,32' N	025° 08,15' E	1768,0	± 341	± 0,0	270,0	0,0	1017,8	c	332 / 24	14,8	17,0				
286-3	03.05.2006	07:34	Schiff @ Station	36° 00,32' N	025° 08,15' E	1768,0	± 336	± 0,0	270,0	0,0	1017,8	c	325 / 24	14,5	17,1			W 3	Gravity Core #: GeoB10406-3
		07:35	SL 3.5m z/W	36° 00,32' N	025° 08,15' E	1768,0	± 336	± 0,0	270,0	0,0	1017,8	c	325 / 24	14,5	17,1				Fieren 0,5 m/s - 1,5 m/s
		08:40	Boko/Hieven	36° 00,32' N	025° 08,14' E	1767,0	± 351	± 0,0	270,0	0,0	1017,6	c	344 / 23	14,7	17,1				Hieven mit 0,5 m/s - 1,5 m/s
		09:17	SL 3.5m a/D	36° 00,32' N	025° 08,15' E	1767,0	± 350	± 0,0	270,0	0,0	1017,9	c	335 / 22	15,0	17,1				
		09:18	Ende Station	36° 00,32' N	025° 08,15' E	1767,0	± 350	± 0,0	183,2	1,4	1017,9	c	335 / 22	15,0	17,1				
287	03.05.2006	09:50	Schiff @ Station	35° 58,89' N	025° 08,05' E	1779,0	± 350	± 0,0	270,0	0,0	1017,7	c	342 / 19	14,7	17,3			W 3	Fieren 0,5 m/s - 1,5 m/s. GC #: GeoB10407-1
		09:51	SL 3.5m z/W	35° 58,89' N	025° 08,05' E	1779,0	± 350	± 0,0	270,0	0,0	1017,7	c	342 / 19	14,7	17,3				Hieven mit 0,5 m/s - 1,5 m/s
		10:25	Boko/Hieven	35° 58,89' N	025° 08,07' E	1780,0	± 350	± 0,0	270,0	0,0	1017,9	o	333 / 15	14,9	17,3	1933	1933		BOKO 1909 m
		10:28	Fieren	35° 58,89' N	025° 08,07' E	1780,0	± 336	± 0,0	270,0	0,0	1017,9	o	340 / 21	15,1	17,3				
		10:31	Boko/Hieven	35° 58,89' N	025° 08,07' E	1780,0	± 336	± 0,0	307,7	0,1	1017,9	o	340 / 21	15,1	17,3				
		11:07	SL 3.5m a/D	35° 58,94' N	025° 07,99' E	1778,0	± 345	± 0,0	270,0	0,0	1017,4	o	343 / 18	15,2	17,3				
		11:08	Ende Station	35° 58,94' N	025° 07,99' E	1778,0	± 345	± 0,0	180,0	0,7	1017,4	o	343 / 18	15,2	17,3				
288	03.05.2006	11:25	Schiff @ Station	35° 58,25' N	025° 07,99' E	1772,0	± 345	± 0,0	270,0	0,0	1017,4	oc	345 / 18	15,3	17,2			W 3	Fieren 0,5 m/s - 1,5 m/s. GC#: GeoB10408-1
		11:26	SL 3.5m z/W	35° 58,25' N	025° 07,99' E	1772,0	± 345	± 0,0	338,0	0,0	1017,4	oc	345 / 18	15,3	17,2				Hieven mit 0,5 m/s - 1,5 m/s
		11:58	Boko/Hieven	35° 58,27' N	025° 07,98' E	1774,0	± 350	± 0,0	344,9	0,2	1017,7	o	338 / 18	15,4	17,2	1924	1924		BOKO 1900 m
		12:34	SL 3.5m a/D	35° 58,42' N	025° 07,93' E	1777,0	± 350	± 0,0	270,0	0,0	1017,5	o	337 / 18	15,2	17,5				
		12:35	Ende Station	35° 58,42' N	025° 07,93' E	1777,0	± 350	± 0,0	81,5	0,5	1017,5	o	337 / 18	15,2	17,5				
289	03.05.2006	13:01	Beginn Kalibrierung	35° 58,49' N	025° 08,51' E	1775,0	± 089	± 4,0	219,0	0,0	1017,2	b	336 / 18	15,2	17,2				Multibeam calibration: GeoB10409
		17:57	Ende Kalibrierung F-Lot	35° 58,48' N	025° 08,50' E	1774,0	± 270	± 4,1	258,5	2,9	1017,6	b/c/q	348 / 22	15,2	17,1				
290	03.05.2006	18:38	Streamer z/W	35° 57,90' N	025° 04,99' E	1742,0	± 339	± 3,4	334,3	0,4	1017,7	b/c/q	352 / 25	15,2	17,3				Profil-Nr. Geophysik: GeoB06-140
		18:45	Airgun z/W	35° 58,27' N	025° 04,77' E	1733,0	± 336	± 3,2	344,9	0,1	1018,0	b/c/q	337 / 25	14,9	17,3				(seismic reflection seismics)
		18:48	pass. Profilanfang	35° 58,33' N	025° 04,75' E	1734,0	± 356	± 3,2	357,8	0,4	1018,0	b/c/q	337 / 25	14,9	17,3				
		18:52	Anfang Profil # 9	35° 58,75' N	025° 04,73' E	1733,0	± 357	± 4,6	357,6	7,2	1018,1	b/c/q	333 / 25	14,8	17,3				
		20:27	Ende Profil # 9	36° 05,91' N	025° 04,36' E	1355,0	± 354	± 4,4	38,9	0,1	1018,4	b/c/q	322 / 19	15,3	16,6				
291	03.05.2006	20:30	Anfang Profil # 10	36° 06,02' N	025° 04,47' E	1343,0	± 090	± 5,2	90,2	4,6	1018,5	b/c/q	320 / 18	15,3	16,7				Profil-Nr. Geophysik: GeoB06-141
		21:35	Ende Profil # 10	36° 06,00' N	025° 10,17' E	1592,0	± 090	± 4,1	270,0	0,0	1017,7	b/c/q	322 / 18	15,2	17,0				(seismic reflection seismics)
292	03.05.2006	21:35	Anfang Profil # 11	36° 06,00' N	025° 10,17' E	1592,0	± 175	± 4,1	175,2	7,5	1017,7	b/c/q	322 / 18	15,2	17,0				Profil-Nr. Geophysik: GeoB06-142
		23:25	Ende Profil # 10	35° 58,51' N	025° 10,95' E	1814,0	± 175	± 4,0	270,0	0,0	1016,9	c	320 / 17	15,3	17,0				(seismic reflection seismics)
293	03.05.2006	23:25	Anfang Profil # 11	35° 58,51' N	025° 10,95' E	1814,0	± 095	± 4,5	96,4	13,2	1016,9	c	320 / 17	15,3	17,0				Profil-Nr. Geophysik: GeoB06-143
		02:20	Ende Profil # 11	35° 57,04' N	025° 27,16' E	1635,0	± 180	± 4,5	270,0	0,0	1015,7	c	337 / 24	14,3	16,8				(seismic reflection seismics)
294	04.05.2006	02:20	Anfang Profil # 12	35° 57,04' N	025° 27,16' E	1635,0	± 180	± 4,5	185,0	4,1	1015,7	c	337 / 24	14,3	16,8				Profil-Nr. Geophysik: GeoB06-144
		03:10	Ende Profil # 12	35° 52,94' N	025° 26,72' E	1490,0	± 297	± 4,5	270,0	0,0	1015,4	c	341 / 25	14,4	16,9				(seismic reflection seismics)
295	04.05.2006	03:10	Anfang Profil # 13	35° 52,94' N	025° 26,72' E	1490,0	± 297	± 4,5	273,5	6,3	1015,4	c	341 / 25	14,4	16,9				Profil-Nr. Geophysik: GeoB06-145
		04:30	Ende Profil # 13	35° 53,32' N	025° 18,96' E	1836,0	± 005	± 4,5	270,0	0,0	1016,9	c	333 / 24	14,3	16,9				(seismic reflection seismics)
296	04.05.2006	04:30	Anfang Profil # 14	35° 53,32' N	025° 18,96' E	1836,0	± 005	± 4,0	0,3	7,4	1016,9	c	333 / 24	14,3	16,9				Profil-Nr. Geophysik: GeoB06-146
		06:11	Ende Profil # 14	36° 00,72' N	025° 19,00' E	1769,0	± 004	± 4,3	331,7	0,1	1017,2	c	337 / 19	14,0	16,8				(seismic reflection seismics)
297	04.05.2006	06:13	Anfang Profil # 15	36° 00,78' N	025° 18,96' E	1754,0	± 290	± 4,5	279,7	8,7	1017,2	c	336 / 18	14,0	16,8				
		07:59	Ende Profil # 15	36° 02,25' N	025° 08,33' E	1706,0	± 289	± 4,5	279,4	1,1	1017,1	c	343 / 26	14,6	16,7				
		08:14	Airgun an Deck	36° 02,43' N	025° 06,99' E	1723,0	± 290	± 4,0	279,5	0,4	1017,1	c	343 / 26	14,6	16,7				
		08:20	Streamer an Deck	36° 02,50' N	025° 06,47' E	1722,0	± 288	± 3,8	99,6	1,5	1017,1	c	343 / 26	14,6	16,7				
298	04.05.2006	08:48	Schiff @ Station	36° 02,25' N	025° 08,29' E	1708,0	± 358	± 0,0	270,0	0,0	1017,4	c	342 / 26	14,2	16,8			W 3	Gravity Core #: GeoB10410-1
		08:50	SL 3.5m z/W	36° 02,25' N	025° 08,29' E	1710,0	± 002	± 0,0	72,8	0,0	1017,4	c	342 / 26	14,2	16,8				Fieren 0,5 m/s - 1,5 m/s
		09:22	Boko/Hieven	36° 02,26' N	025° 08,33' E	1707,0	± 340	± 0,0	270,0	0,0	1017,5	c/o	339 / 23	13,9	16,7	1855	1855		Hieven mit 0,5 m/s - 1,5 m/s
		09:56	SL 3.5m a/D	36° 02,26' N	025° 08,30' E	1707,0	± 340	± 0,0	270,0	0,0	1017,3	c/o	346 / 22	13,9	16,7				
		09:57	Ende Station	36° 02,26' N	025° 08,30' E	1707,0	± 340	± 0,0	170,8	0,1	1017,3	c/o	346 / 22	13,9	16,7				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
299	04.05.2006	10:11	Schiff @ Station	36° 02,21' N	025° 08,31' E	1687,0	± 350	± 0,0	270,0	0,0	1017,4	c	345 / 21	13,9	16,8			W 2	CPT #: GeoB10410-2
		10:12	CPT z/W	36° 02,21' N	025° 08,31' E	1687,0	± 350	± 0,0	354,2	0,1	1017,4	c	345 / 21	13,9	16,8				Fieren 0,5 m/s - 1,5 m/s
		10:46	BOKO / Hieven	36° 02,29' N	025° 08,30' E	1707,0	± 355	± 0,0	270,0	0,0	1017,3	oc	354 / 21	14,3	16,9	1749	1749		Hieven mit 0,5 m/s - 1,5 m/s
		10:51	Fieren	36° 02,29' N	025° 08,30' E	1707,0	± 355	± 0,0	270,0	0,0	1017,3	oc	354 / 21	14,3	16,9	1680			Fieren 0,5 m/s - 1,5 m/s
		10:53	BOKO / Hieven	36° 02,29' N	025° 08,30' E	1707,0	± 355	± 0,0	101,6	0,0	1017,3	oc	354 / 21	14,3	16,9	1754	1754		Hieven mit 0,5 m/s - 1,5 m/s
		11:26	CPT a/D	36° 02,28' N	025° 08,36' E	1706,0	± 360	± 0,0	270,0	0,0	1017,2	oc	341 / 22	14,1	16,7				
		11:28	Ende Station	36° 02,28' N	025° 08,36' E	1706,0	± 360	± 6,0	128,3	14,8	1017,2	oc	341 / 22	14,1	16,7				
300	04.05.2006	13:25	Beginn Mapping F-Lot	35° 53,11' N	025° 22,71' E	1829,0	± 126	± 6,0	356,8	1,2	1016,7	oc	336 / 23	14,4	16,9				Multibeam calibration: GeoB10411
		14:47	Ende Mapping F-Lot	35° 54,26' N	025° 22,63' E	1834,0	± 308	± 0,0	146,4	1,3	1015,9	oc	348 / 21	14,7	16,8				
301	04.05.2006	15:10	Schiff @ Station	35° 53,15' N	025° 23,54' E	1685,0	± 335	± 0,0	321,0	0,0	1016,0	oc	341 / 23	15,0	16,9			W 3	Gravity Core #: GeoB10412-1
		15:11	SL 3.5m z/W	35° 53,17' N	025° 23,52' E	1686,0	± 340	± 0,0	321,0	0,0	1016,0	bc	343 / 23	14,6	16,8				Fieren 0,5 m/s - 1,5 m/s
		15:40	Boko/Hieven	35° 53,18' N	025° 23,51' E	1686,0	± 335	± 0,0	170,8	0,1	1015,8	bc	328 / 23	14,8	16,9	1845	1845		Hieven mit 0,5 m/s - 1,5 m/s
		16:10	SL 3.5m a/D	35° 53,13' N	025° 23,52' E	1785,0	± 333	± 0,0	270,0	0,0	1015,7	bc	327 / 22	14,9	16,8				
		16:10	Ende Station	35° 53,13' N	025° 23,52' E	1785,0	± 333	± 0,0	340,2	0,1	1015,7	bc	327 / 22	14,9	16,8				
302	04.05.2006	16:19	Schiff @ Station	35° 53,22' N	025° 23,48' E	1687,0	± 334	± 2,0	270,0	0,0	1015,8	bc	329 / 22	14,6	16,8				
		16:20	Streamer z/W	35° 53,22' N	025° 23,48' E	1687,0	± 334	± 2,0	336,0	0,2	1015,8	bc	329 / 22	14,6	16,8				
		16:25	Airgun z/W	35° 53,42' N	025° 23,37' E	1824,0	± 337	± 2,5	95,6	4,4	1015,7	bc	331 / 22	14,9	16,9				
		17:31	Auf Profilanfahrt	35° 52,99' N	025° 28,78' E	1452,0	± 084	± 4,3	89,8	2,6	1015,7	c/b	334 / 21	15,1	16,8				
		18:10	Anfang Profil # 16	35° 53,00' N	025° 32,00' E	1208,0	± 352	± 4,2	180,0	7,0	1015,7	c/b	333 / 22	15,2	16,9				
		19:50	Ende Profil # 16	36° 00,00' N	025° 32,00' E	1541,0	± 358	± 4,2	270,0	0,0	1015,8	c/b	319 / 17	15,0	16,8				
303	04.05.2006	19:51	Anfang Profil # 17	36° 00,00' N	025° 32,00' E	1541,0	± 084	± 4,5	270,0	4,4	1015,8	c/b	319 / 17	15,0	16,8				
		20:54	Ende Profil # 17	36° 00,00' N	025° 37,50' E	1378,0	± 090	± 4,2	270,0	0,0	1015,4	c/b	315 / 15	15,0	17,0				
304	04.05.2006	20:55	Anfang Profil # 18	36° 00,00' N	025° 37,50' E	1354,0	± 180	± 4,1	180,5	5,1	1015,4	c/b	315 / 15	15,0	17,0				
		22:19	Ende Profil # 18	35° 54,86' N	025° 37,45' E	1002,0	± 180	± 4,1	270,0	0,0	1015,1	b	315 / 13	15,2	17,1				
305	04.05.2006	22:20	Anfang Profil # 19	35° 54,86' N	025° 37,45' E	1002,0	± 175	± 4,1	176,3	15,5	1015,1	b	315 / 13	15,2	17,1				
		02:01	Ende Profil # 19	35° 39,44' N	025° 38,67' E	497,0	± 175	± 4,0	270,0	0,0	1014,1	b	330 / 18	15,1	17,0				
306	05.05.2006	02:02	Anfang Profil # 20	35° 39,44' N	025° 38,65' E	497,0	± 270	± 4,0	271,2	4,6	1014,1	b	330 / 18	15,1	17,0				
		03:10	Ende Profil # 20	35° 39,54' N	025° 33,00' E	427,0	± 270	± 4,0	270,0	0,0	1014,4	b	329 / 18	14,5	17,0				
307	05.05.2006	03:10	Anfang Profil # 21	35° 39,54' N	025° 33,00' E	427,0	± 356	± 4,0	356,6	13,5	1014,4	b	329 / 18	14,5	17,0				
		06:24	Ende Profil # 21	35° 53,00' N	025° 32,00' E	1202,0	± 355	± 4,7	356,5	0,8	1015,9	c	323 / 17	14,2	17,1				
		06:35	Airgun an Deck	35° 53,80' N	025° 31,94' E	1235,0	± 354	± 4,2	356,7	0,4	1016,0	c	322 / 17	14,5	17,2				
		06:40	Streamer an Deck	35° 54,22' N	025° 31,91' E	1177,0	± 354	± 4,2	261,0	6,9	1016,0	c	322 / 17	14,5	17,2				
308	05.05.2006	07:38	Schiff @ Station	35° 53,15' N	025° 23,54' E	1687,0	± 336	± 0,0	270,0	0,0	1016,0	b/c	343 /23	14,1	16,9			W 3	Gravity Core #: GeoB10413-1
		07:39	SL 3.5m z/W	35° 53,15' N	025° 23,53' E	1686,0	± 337	± 0,0	180,0	0,0	1016,0	b/c	343 / 23	14,1	16,9				Fieren 0,5 m/s - 1,5 m/s
		08:08	Boko/Hieven	35° 53,17' N	025° 23,53' E	1684,0	± 344	± 0,0	270,0	0,0	1016,3	b/c	341 / 23	13,7	16,8	1852	1852		Hieven mit 0,5 m/s - 1,5 m/s
		08:47	SL 3.5m a/D	35° 53,17' N	025° 23,52' E	1685,0	± 342	± 0,0	270,0	0,0	1016,5	b/c	341 / 20	14,0	16,8				BOKO: 1828m
		08:50	Ende Station	35° 53,17' N	025° 23,52' E	1685,0	± 341	± 0,0	270,0	0,0	1016,5	b/c	341 / 20	14,0	16,8				
308-2	05.05.2006	08:52	Schiff @ Station	35° 53,17' N	025° 23,53' E	1685,0	± 341	± 0,0	270,0	0,0	1016,5	b/c	344 / 20	14,1	16,8			W 2	CPT#: GeoB10413-2
		08:56	CPT z/W	35° 53,17' N	025° 23,53' E	1685,0	± 342	± 0,0	180,0	0,0	1016,6	b/c	332 / 19	14,2	16,8				Fieren 0,5 m/s - 1,5 m/s
		09:46	Boko/Hieven	35° 53,18' N	025° 23,53' E	1683,0	± 340	± 0,0	270,0	0,0	1016,6	b/c	337 / 16	14,1	16,8	1768	1768		Hieven mit 0,5 m/s - 1,5 m/s
		10:15	CPT a/D	35° 53,18' N	025° 23,53' E	1684,0	± 345	± 0,0	270,0	0,0	1016,1	c	346 / 15	14,3	16,8				
		10:16	Ende Station	35° 53,18' N	025° 23,53' E	1684,0	± 345	± 0,0	219,0	0,0	1016,1	c	346 / 15	14,3	16,8				
308-3	05.05.2006	10:20	Schiff @ Station	35° 53,17' N	025° 23,52' E	1684,0	± 345	± 0,0	270,0	0,0	1016,1	c	346 / 15	14,3	16,8			W 3	Heat Flow #: GeoB10413-3
		10:21	HF (Heat Flow) z/W	35° 53,17' N	025° 23,52' E	1684,0	± 345	± 0,0	180,0	0,0	1016,1	c	346 / 15	14,3	16,8				Fieren 0,5 m/s - 1,5 m/s
		11:13	Boko/Hieven	35° 53,20' N	025° 23,52' E	1684,0	± 345	± 0,0	356,1	0,1	1016,0	c	339 / 15	14,7	17,1	1843	1843		Hieven mit 0,5 m/s - 1,5 m/s
		11:53	HF (Heat Flow) a/D	35° 53,32' N	025° 23,51' E	1823,0	± 345	± 0,0	270,0	0,0	1016,1	c	327 / 14	14,8	17,1				BOKO: 1821 m
		11:54	Ende Station	35° 53,32' N	025° 23,51' E	1823,0	± 345	± 0,0	341,7	0,2	1016,1	c	327 / 14	14,8	17,1				
309	05.05.2006	12:06	Schiff @ Station	35° 53,54' N	025° 23,42' E	1824,0	± 345	± 0,0	270,0	0,0	1015,9	c	327 / 15	15,0	17,0			W 2	CPT#: GeoB10414-1
		12:08	CPT z/W	35° 53,54' N	025° 23,42' E	1824,0	± 345	± 0,0	270,0	0,0	1015,9	c	327 / 15	15,0	17,0				Fieren 0,5 m/s - 1,5 m/s

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 1544,5 sm 432,10 h
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		12:43	Boko/Hieven	35° 53,54' N	025° 23,43' E	1824,0	± 345	± 0,0	208,4	0,0	1015,4	c	339 / 15	14,7	17,1	1872	1872		Hieven mit 0,5 m/s - 1,5 m/s
		13:13	CPT a/D	35° 53,51' N	025° 23,41' E	1825,0	± 340	± 0,0	270,0	0,0	1015,4	c	331 / 17	14,9	17,0				
		13:14	Ende Station	35° 53,51' N	025° 23,41' E	1825,0	± 340	± 0,0	270,0	0,0	1015,4	c	331 / 17	14,9	17,0				
309-2	05.05.2006	13:14	Schiff @ Station	35° 53,51' N	025° 23,41' E	1825,0	± 340	± 0,0	141,0	0,0	1015,4	c	331 / 17	14,9	17,0			W 3	Heat Flow #: GeoB10414-2
		13:16	HF (Heat Flow) z/W	35° 53,50' N	025° 23,42' E	1824,0	± 340	± 0,0	168,6	0,0	1015,5	c	335 / 16	14,6	17,1				Fieren 0,5 m/s - 1,5 m/s
		14:09	Boko/Hieven	35° 53,46' N	025° 23,43' E	1824,0	± 340	± 0,0	151,6	0,1	1015,4	c	332 / 16	14,7	17,2	1978	1978		Hieven mit 0,5 m/s - 1,5 m/s
		14:44	HF (Heat Flow) a/D	35° 53,40' N	025° 23,47' E	1824,0	± 340	± 0,0	270,0	0,0	1015,5	c	334 / 13	14,8	17,1				BOKO: 1958 m
		14:45	Ende Station	35° 53,40' N	025° 23,47' E	1824,0	± 340	± 0,0	61,0	0,5	1015,5	c	334 / 13	14,8	17,1				
310	05.05.2006	15:00	Schiff @ Station	35° 53,66' N	025° 24,05' E	1751,0	± 335	± 0,0	270,0	0,0	1015,5	c	323 / 15	14,8	17,0			W 2	CPT#: GeoB10415-1
		15:01	CPT z/W	35° 53,66' N	025° 24,05' E	1751,0	± 335	± 0,0	141,0	0,1	1015,5	c	323 / 15	14,8	17,0				Fieren 0,5 m/s - 1,5 m/s
		15:49	Boko/Hieven	35° 53,60' N	025° 24,11' E	1737,0	± 338	± 0,0	22,1	0,0	1015,8	c	312 / 17	14,5	17,0	1800	1800		Hieven mit 0,5 m/s - 1,5 m/s
		16:11	CPT a/D	35° 53,62' N	025° 24,12' E	1736,0	± 340	± 0,0	141,0	0,0	1015,8	c	321 / 16	14,9	17,0				
		16:13	Ende Station	35° 53,61' N	025° 24,13' E	1736,0	± 340	± 0,0	141,0	0,0	1015,8	c	321 / 16	14,6	17,0				
310-2	05.05.2006	16:15	Schiff @ Station	35° 53,60' N	025° 24,14' E	1733,0	± 340	± 0,0	270,0	0,0	1015,9	c	314 / 16	14,6	17,1			W 3	Heat Flow #: GeoB10415-2
		16:15	HF (Heat Flow) z/W	35° 53,60' N	025° 24,14' E	1733,0	± 340	± 0,0	238,3	0,1	1015,9	c	314 / 16	14,6	17,1				Fieren 0,5 m/s - 1,5 m/s
		17:04	Boko/Hieven	35° 53,56' N	025° 24,06' E	1737,0	± 343	± 0,0	270,0	0,0	1015,8	c	323 / 15	14,7	17,0	1895	1895		Hieven mit 0,5 m/s - 1,5 m/s
		17:35	HF (Heat Flow) a/D	35° 53,56' N	025° 24,05' E	1739,0	± 342	± 0,0	270,0	0,0	1015,7	c	330 / 16	14,7	17,0				BOKO: 1875 m
		17:37	Ende Station	35° 53,56' N	025° 24,05' E	1739,0	± 342	± 0,0	93,7	7,9	1015,7	c	330 / 16	14,7	17,0				
311	05.05.2006	18:48	Katamaran, Streamer z/W	35° 53,05' N	025° 33,78' E	1209,0	± 088	± 3,0	93,9	0,4	1015,7	c	328 / 16	14,8	17,3				
		18:57	Airgun z/W	35° 53,02' N	025° 34,32' E	1207,0	± 087	± 3,0	92,1	0,6	1015,7	c	327 / 16	14,8	17,3				
		19:05	Anfang Profil # 22	35° 53,00' N	025° 35,00' E	1203,0	± 090	± 4,1	270,0	4,1	1015,9	c	331 / 16	14,9	17,3				
		20:00	Ende Profil # 22	35° 53,00' N	025° 40,00' E	1309,0	± 090	± 3,9	180,0	1,0	1016,1	c	317 / 10	15,0	17,4				
312	05.05.2006	20:17	Anfang Profil # 23	35° 54,00' N	025° 40,00' E	1289,0	± 270	± 4,0	270,0	4,1	1015,8	c	343 / 10	15,0	17,3				
		21:12	Ende Profil # 23	35° 54,00' N	025° 35,00' E	1126,0	± 270	± 4,0	180,0	1,0	1015,7	c	340 / 11	14,9	17,2				
313	05.05.2006	21:27	Anfang Profil # 24	35° 55,00' N	025° 35,00' E	1153,0	± 090	± 4,1	270,0	4,0	1015,7	c	342 / 11	14,9	17,2				
		22:27	Ende Profil # 24	35° 55,00' N	025° 40,00' E	1156,0	± 090	± 4,2	180,0	1,0	1015,3	c	331 / 11	14,9	17,1				
314	05.05.2006	22:43	Anfang Profil # 25	35° 56,00' N	025° 40,00' E	1178,0	± 270	± 4,0	270,0	4,0	1015,3	c	331 / 11	14,9	17,1				
		23:44	Ende Profil # 25	35° 56,00' N	025° 35,00' E	1270,0	± 270	± 3,9	180,0	1,0	1014,7	c	331 / 13	14,6	17,1				
315	05.05.2006	23:59	Anfang Profil # 26	35° 57,00' N	025° 35,00' E	1352,0	± 090	± 4,1	270,0	4,0	1014,7	c	325 / 13	14,9	17,1				
	06.05.2006	01:00	Ende Profil # 26	35° 57,00' N	025° 40,00' E	1330,0	± 090	± 4,0	180,0	1,0	1014,5	c	315 / 11	14,6	17,1				
316	06.05.2006	01:26	Anfang Profil # 27	35° 58,00' N	025° 40,00' E	1290,0	± 270	± 4,0	270,0	2,1	1014,3	c	335 / 12	15,2	17,3				
		01:54	Ende Profil # 27	35° 58,00' N	025° 37,39' E	1365,0	± 270	± 4,0	270,0	0,0	1014,2	c	332 / 12	15,0	17,2				
317	06.05.2006	01:54	Anfang Profil # 28	35° 58,00' N	025° 37,39' E	1365,0	± 180	± 4,0	179,7	4,8	1014,2	c	332 / 12	15,0	17,2				
		03:00	Abbruch Profil # 28	35° 53,25' N	025° 37,42' E	1229,0	± 180	± 4,0	180,0	0,1	1014,3	c	314 / 13	14,9	17,2				
		03:02	Katamaran a/D	35° 53,11' N	025° 37,42' E	1229,0	± 180	± 2,0	170,8	0,1	1014,3	c	314 / 13	14,9	17,2				
		03:05	Airgun a/D	35° 53,06' N	025° 37,43' E	1241,0	± 180	± 2,0	176,4	0,3	1014,3	c	314 / 13	14,9	17,2				
		03:11	Streamer a/D	35° 52,80' N	025° 37,45' E	1249,0	± 185	± 2,0	359,7	1,7	1014,3	c	334 / 13	15,0	17,2				
318	06.05.2006	03:32	Schiff @ Station	35° 54,46' N	025° 37,44' E	1091,0	± 340	± 0,0	270,0	0,0	1014,3	c	344 / 14	15,8	17,1			W 3	Gravity Core #: GeoB10416-1
		03:33	SL 3.5m z/W	35° 54,46' N	025° 37,44' E	1073,0	± 340	± 0,0	180,0	0,0	1014,3	c	344 / 14	15,8	17,1				Fieren 0,5 m/s - 1,5 m/s
		03:52	Boko/Hieven	35° 54,47' N	025° 37,44' E	1036,0	± 355	± 0,0	141,0	0,0	1014,4	c	353 / 16	15,4	17,1	1193	1193		Hieven mit 0,5 m/s - 1,5 m/s
		04:15	SL 3.5m a/D	35° 54,45' N	025° 37,46' E	1100,0	± 350	± 0,0	180,0	0,0	1014,5	c	349 / 16	15,4	17,1				BOKO: 1174 m
		04:16	Ende Station	35° 54,44' N	025° 37,46' E	1049,0	± 350	± 0,0	321,0	0,0	1014,5	c	349 / 16	15,4	17,1				
318-2	06.05.2006	04:55	Schiff @ Station	35° 54,45' N	025° 37,45' E	1097,0	± 355	± 0,0	180,0	0,0	1014,6	c	355 / 17	15,4	17,0			W 2	CPT #: GeoB10416-2
		04:56	CPT z/W	35° 54,46' N	025° 37,45' E	1091,0	± 358	± 0,0	141,0	0,0	1014,6	c	353 / 17	15,4	17,0				Fieren 0,5 m/s - 1,5 m/s
		05:18	Boko/Hieven	35° 54,45' N	025° 37,46' E	1100,0	± 354	± 0,0	180,0	0,0	1014,8	c	354 / 17	15,6	17,1	1128	1128		Hieven mit 0,5 m/s - 1,5 m/s
		05:25	Boko/Hieven	35° 54,46' N	025° 37,46' E	1102,0	± 359	± 0,0	22,0	0,0	1014,9	c	357 / 17	15,3	17,1	1127	1127		Boko: 1128 m @ 05:15
		05:42	CPT a/D	35° 54,48' N	025° 37,47' E	1038,0	± 000	± 0,0	270,0	0,0	1015,0	c	004 / 17	15,2	17,2				
		05:42	Ende Station	35° 54,48' N	025° 37,47' E	1038,0	± 000	± 0,0	180,0	0,0	1015,0	c	004 / 17	15,2	17,2				
319	06.05.2006	06:00	Schiff @ Station	35° 54,51' N	025° 37,47' E	1030,0	± 002	± 0,0	270,0	0,0	1015,0	c	004 / 17	15,7	17,2			W 3	Gravity Core #: GeoB10417-1

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 1544,5 sm 432,10 h
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		06:01	SL 3.5m z/W	35° 54,51' N	025° 37,47' E	1030,0	± 002	± 0,0	321,0	0,0	1015,0	c	004 / 17	15,7	17,2				Fieren 0,5 m/s - 1,5 m/s
		06:20	Boko/Hieven	35° 54,52' N	025° 37,46' E	1025,0	± 002	± 0,0	180,0	0,0	1015,0	c	008 / 16	15,1	17,1	950	1170		Hieven mit 0,5 m/s - 1,5 m/s
		06:45	SL 3.5m a/D	35° 54,53' N	025° 37,46' E	1025,0	± 000	± 0,0	270,0	0,0	1015,0	c	358 / 17	15,2	17,0				
		06:46	Ende Station	35° 54,53' N	025° 37,46' E	1025,0	± 000	± 0,0	180,0	0,0	1015,0	c	358 / 17	15,2	17,0				
319-2	06.05.2006	06:52	Schiff @ Station	35° 54,52' N	025° 37,46' E	1025,0	± 358	± 0,0	270,0	0,0	1015,0	c/b	358 / 17	15,0	17,3			W 2	CPT#: GeoB10417-2
		06:52	CPT z/W	35° 54,52' N	025° 37,46' E	1025,0	± 358	± 0,0	270,0	0,0	1015,0	c/b	358 / 17	15,0	17,3	30			Fieren 0,5 m/s - 1,5 m/s
		07:17	Boko/Hieven	35° 54,52' N	025° 37,46' E	1026,0	± 000	± 0,0	270,0	0,0	1015,1	c/b	355 / 17	15,1	17,1	1101	1101		Hieven mit 0,5 m/s - 1,5 m/s
		07:36	CPT a/D	35° 54,52' N	025° 37,46' E	1025,0	± 350	± 0,0	270,0	0,0	1015,1	c/b	346 / 17	14,8	17,1				Boko: 1100 @ 07:07
		07:36	Ende Station	35° 54,52' N	025° 37,46' E	1025,0	± 348	± 0,0	268,0	0,3	1015,1	c/b	346 / 17	14,8	17,1				
320	06.05.2006	07:51	Schiff @ Station	35° 54,51' N	025° 37,11' E	1020,0	± 345	± 0,0	180,0	0,0	1015,1	c/b	345 / 15	15,3	17,1			W 3	Gravity Core #: GeoB10418-1
		07:52	SL 3.5m z/W	35° 54,52' N	025° 37,11' E	1020,0	± 345	± 0,0	270,0	0,0	1015,1	c/b	345 / 15	15,3	17,1				Fieren 0,5 m/s - 1,5 m/s
		08:13	Boko/Hieven	35° 54,52' N	025° 37,09' E	1020,0	± 351	± 0,0	270,0	0,0	1015,3	c/b	346 / 13	15,2	17,2	1115	1115		Hieven mit 0,5 m/s - 1,5 m/s
		08:38	SL 3.5m a/D	35° 54,52' N	025° 37,09' E	1020,0	± 356	± 0,0	270,0	0,0	1015,3	c/b	355 / 13	15,1	17,2				Boko: 1103 @ 08:12
		08:39	Ende Station	35° 54,52' N	025° 37,09' E	1020,0	± 356	± 0,0	270,0	0,0	1015,3	c/b	355 / 13	15,1	17,2				
320-2	06.05.2006	08:40	Schiff @ Station	35° 54,52' N	025° 37,09' E	1020,0	± 356	± 0,0	270,0	0,0	1015,3	c/b	355 / 13	15,1	17,2			W 2	CPT#: GeoB10418-2
		08:41	CPT z/W	35° 54,52' N	025° 37,09' E	1020,0	± 356	± 0,0	270,0	0,0	1015,3	c/b	355 / 13	15,1	17,2	30			Fieren 0,5 m/s - 1,5 m/s
		09:10	Boko/Hieven	35° 54,52' N	025° 37,09' E	1022,0	± 358	± 0,0	256,1	0,0	1015,4	c/b	001 / 14	14,8	17,1	1051	1051		Hieven mit 0,5 m/s - 1,5 m/s
		09:25	CPT a/D	35° 54,51' N	025° 37,04' E	1024,0	± 005	± 0,0	270,0	0,0	1015,6	c/b	001 / 10	15,2	17,5				Boko: 1050 @ 08:59
		09:26	Ende Station	35° 54,51' N	025° 37,04' E	1024,0	± 005	± 0,0	274,4	0,1	1015,6	c/b	001 / 10	15,2	17,5				
321	06.05.2006	09:35	Schiff @ Station	35° 54,52' N	025° 36,88' E	1044,0	± 350	± 0,0	270,0	0,0	1015,6	c/b	001 / 10	15,2	17,5			W 2	CPT #: GeoB10419-1
		09:36	CPT z/W	35° 54,52' N	025° 36,88' E	1044,0	± 350	± 0,0	336,2	0,1	1015,6	c/b	001 / 10	15,2	17,5	30			Fieren 0,5 m/s - 1,5 m/s
		10:12	Boko/Hieven	35° 54,63' N	025° 36,82' E	1091,0	± 360	± 0,0	121,7	0,0	1015,4	c/b	344 / 8	15,1	17,5	1119	1119		Hieven mit 0,5 m/s - 1,5 m/s
		10:28	CPT a/D	35° 54,62' N	025° 36,84' E	1091,0	± 355	± 0,0	270,0	0,0	1015,3	c	339 / 9	15,2	17,4				Boko: 1100 m
		10:30	Ende Station	35° 54,62' N	025° 36,84' E	1091,0	± 355	± 0,0	321,0	0,0	1015,3	c	339 / 9	15,2	17,4				
321-2	06.05.2006	10:35	Schiff @ Station	35° 54,64' N	025° 36,82' E	1090,0	± 350	± 0,0	270,0	0,0	1015,3	c	339 / 9	15,2	17,4			W 3	Gravity Core #: GeoB10419-1
		10:36	SL 6m z/W	35° 54,64' N	025° 36,82' E	1090,0	± 350	± 0,0	219,0	0,0	1015,3	c	339 / 9	15,2	17,4				Fieren 0,5 m/s - 1,5 m/s
		10:57	Boko/Hieven	35° 54,62' N	025° 36,80' E	1091,0	± 350	± 0,0	121,7	0,0	1015,0	c	314 / 11	15,3	17,5	1187,0	1187		Hieven mit 0,5 m/s - 1,5 m/s
		11:22	SL 6m a/D	35° 54,61' N	025° 36,82' E	1079,0	± 360	± 0,0	112,4	0,0	1014,9	bc	306 / 12	15,2	17,6				Boko: 1166m
		11:27	Ende Station	35° 54,60' N	025° 36,85' E	1092,0	± 360	± 0,0	187,5	14,1	1014,9	bc	306 / 12	15,2	17,6				
322	06.05.2006	13:08	Schiff @ Station	35° 40,59' N	025° 34,57' E	542,0	± 228	± 0,0	225,4	0,1	1014,7	bc	308 / 17	15,1	17,1				
		13:09	Katamaran zu Wasser	35° 40,55' N	025° 34,52' E	538,0	± 229	± 3,0	216,4	0,1	1014,7	bc	307 / 16	15,1	17,1				
		13:11	Streamer zu Wasser	35° 40,44' N	025° 34,42' E	530,0	± 229	± 3,0	217,4	0,4	1014,7	bc	306 / 17	15,1	17,1				
		13:20	Airgun zu Wasser	35° 40,10' N	025° 34,10' E	469,0	± 236	± 3,0	229,3	0,1	1014,7	bc	308 / 17	15,1	17,1				
		13:28	Airgun an Deck	35° 40,03' N	025° 34,00' E	460,0	± 233	± 2,0	264,3	2,0	1014,7	bc	306 / 15	15,1	17,1				Technisches Problem mit Airgun: stand by
		14:28	Airgun zu Wasser	35° 39,83' N	025° 31,52' E	540,0	± 089	± 3,0	105,3	1,2	1014,8	bc	302 / 14	15,2	17,2				
		14:51	Beginn Profil # 29	35° 39,50' N	025° 33,00' E	438,0	± 218	± 4,2	218,2	3,9	1014,6	c	291 / 14	15,5	17,2				
		15:48	Ende Profil # 29	35° 36,40' N	025° 30,00' E	484,0	± 167	± 4,1	270,0	0,0	1014,5	c	309 / 15	14,9	17,3				
323	06.05.2006	15:48	Beginn Profil # 30	35° 36,40' N	025° 30,00' E	484,0	± 167	± 4,1	167,4	13,9	1014,5	c	309 / 15	14,9	17,3				
		19:00	Ende Profil # 30	35° 22,80' N	025° 33,72' E	359,0	± 167	± 4,3	270,0	0,0	1016,0	b/c	289 / 18	15,2	17,1				
324	06.05.2006	19:00	Beginn Profil # 31	35° 22,80' N	025° 33,72' E	359,0	± 077	± 3,9	76,1	5,0	1016,0	b/c	289 / 18	15,2	17,1				
		20:12	Ende Profil # 31	35° 24,00' N	025° 39,69' E	282,0	± 077	± 4,0	270,0	0,0	1015,9	b/c	297 / 20	15,3	17,0				
325	06.05.2006	20:12	Beginn Profil # 32	35° 24,00' N	025° 39,69' E	282,0	± 358	± 2,9	357,9	15,5	1015,9	b/c	297 / 20	15,3	17,0				
		23:57	Ende Profil # 32	35° 39,50' N	025° 39,00' E	496,0	± 358	± 4,5	270,0	0,0	1015,3	b	301 / 20	14,8	16,9				
326	06.05.2006	23:57	Beginn Profil # 33	35° 39,50' N	025° 39,00' E	496,0	± 090	± 4,5	270,0	2,9	1015,3	b	301 / 20	14,8	16,9				
	07.06.2006	00:37	Ende Profil # 33	35° 39,50' N	025° 42,56' E	460,0	± 090	± 4,1	270,0	0,0	1015,4	b	303 / 19	15,1	17,0				
327	07.06.2006	00:37	Beginn Profil # 34	35° 39,50' N	025° 42,56' E	460,0	± 172	± 4,1	172,1	15,8	1015,4	b	303 / 19	15,1	17,0				
		04:20	Ende Profil # 34	35° 23,81' N	025° 45,25' E	187,0	± 172	± 4,1	270,0	0,0	1015,4	b	299 / 23	15,7	16,8				
328	07.06.2006	04:20	Beginn Profil # 35	35° 23,81' N	025° 45,25' E	187,0	± 270	± 4,1	270,0	2,1	1015,4	b	299 / 23	15,7	16,8				
		04:52	Ende Profil # 35	35° 23,81' N	025° 42,71' E	176,0	± 270	± 4,0	270,0	0,0	1015,7	b	300 / 22	15,1	16,9				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
329	07.06.2006	04:52	Beginn Profil # 36	35° 23,81' N	025° 42,71' E	176,0	± 352	± 4,0	352,0	7,3	1015,7	b	300 / 22	15,1	16,9				
		06:39	Ende Profil # 36	35° 31,00' N	025° 41,47' E	700,0	± 353	± 4,2	270,0	0,0	1015,9	b	300 / 21	15,6	17,2				
330	07.05.2006	06:39	Beginn Profil # 37	35° 31,00' N	025° 41,47' E	700,0	± 270	± 4,2	270,0	4,0	1015,9	b	300 / 21	15,6	17,2				
		07:29	Ende Profil # 37	35° 31,00' N	025° 36,50' E	594,0	± 270	± 4,2	270,0	0,0	1016,2	b	303 / 22	15,5	17,1				
331	07.05.2006	07:29	Beginn Profil # 38	35° 31,00' N	025° 36,50' E	594,0	± 177	± 4,4	177,2	7,6	1016,2	b/c	303 / 22	15,5	17,1				
		09:08	Ende Profil # 38	35° 23,44' N	025° 36,95' E	370,0	± 177	± 4,7	355,9	0,5	1017,1	b	305 / 16	16,0	17,2				
332	07.05.2006	09:22	Beginn Profil # 39, MB	35° 23,90' N	025° 36,91' E	404,0	± 075	± 4,4	75,0	2,3	1017,1	b	305 / 16	16,0	17,2				
		09:54	Ende Profil # 39, MB	35° 24,50' N	025° 39,65' E	362,0	± 075	± 4,0	270,0	0,0	1017,1	bc	300 / 15	15,6	17,0				
333	07.05.2006	09:54	Beginn Profil # 40, MB	35° 24,50' N	025° 39,65' E	362,0	± 095	± 4,0	98,1	2,4	1017,1	bc	300 / 15	15,6	17,0				
		10:26	Ende Profil # 40, MB	35° 24,16' N	025° 42,59' E	193,0	± 095	± 4,3	270,0	0,0	1016,9	bc	304 / 17	16,0	17,2				
334	07.05.2006	10:26	Beginn Profil # 41, MB	35° 24,16' N	025° 42,59' E	193,0	± 090	± 4,3	270,0	2,1	1016,9	bc	304 / 17	16,0	17,2				
		10:56	Ende Profil # 41, MB	35° 24,16' N	025° 45,18' E	215,0	± 090	± 4,5	7,0	0,5	1016,9	bc	304 / 16	16,1	17,1				
335	07.05.2006	11:08	Beginn Profil # 42, MB	35° 24,69' N	025° 45,26' E	248,0	± 270	± 4,2	266,0	2,1	1016,7	bc	307 / 16	16,3	17,0				
		11:39	Ende Profil # 42, MB	35° 24,54' N	025° 42,65' E	217,0	± 270	± 4,2	270,0	0,0	1016,6	b	297 / 16	16,0	17,3				
336	07.05.2006	11:39	Beginn Profil # 43, MB	35° 24,54' N	025° 42,65' E	217,0	± 275	± 4,2	278,0	2,5	1016,6	b	297 / 16	16,0	17,3				
		12:15	Ende Profil # 43, MB	35° 24,89' N	025° 39,60' E	433,0	± 275	± 4,3	270,0	0,0	1016,7	b	297 / 16	16,5	17,4				
337	07.05.2006	12:15	Beginn Profil # 44, MB	35° 24,89' N	025° 39,60' E	433,0	± 259	± 4,3	259,0	2,7	1016,7	b	297 / 16	16,5	17,4				
		12:54	Ende Profil # 44, MB	35° 24,37' N	025° 36,33' E	408,0	± 259	± 4,2	270,0	0,0	1016,6	b	307 / 15	16,6	17,2				
338	07.05.2006	12:54	Beginn Profil # 45, MB	35° 24,37' N	025° 36,33' E	408,0	± 190	± 4,2	187,7	0,5	1016,6	b	307 / 15	16,6	17,2				
		13:01	Ende Profil # 45, MB	35° 23,83' N	025° 36,24' E	358,0	± 190	± 4,2	270,0	0,0	1016,6	b	298 / 15	16,6	17,2				
339	07.05.2006	13:01	Beginn Profil # 46, MB	35° 23,83' N	025° 36,24' E	358,0	± 261	± 4,2	260,8	2,1	1016,6	b	298 / 15	16,6	17,2				
		13:33	Ende Profil # 46, MB	35° 23,50' N	025° 33,73' E	414,0	± 261	± 4,1	270,0	0,0	1016,6	b	291 / 16	16,7	17,4				
340	07.05.2006	13:33	Beginn Profil # 47	35° 23,50' N	025° 33,73' E	414,0	± 007	± 4,1	6,8	5,5	1016,6	b	291 / 16	16,7	17,4				
		14:55	Ende Profil # 47	35° 29,00' N	025° 34,54' E	465,0	± 007	± 4,1	270,0	0,0	1016,2	b	306 / 14	16,3	17,2				
341	07.05.2006	14:55	Beginn Profil # 48	35° 29,00' N	025° 34,54' E	465,0	± 090	± 4,1	270,0	2,8	1016,2	b	306 / 14	16,3	17,2				
		15:35	Ende Profil # 48	35° 29,00' N	025° 38,00' E	612,0	± 090	± 4,1	270,0	0,0	1015,9	b	297 / 16	16,6	17,2				
342	07.05.2006	15:35	Beginn Profil # 49	35° 29,00' N	025° 38,00' E	612,0	± 175	± 4,1	175,3	4,7	1015,9	b	297 / 16	16,6	17,2				
		16:38	Ende Profil # 49	35° 24,30' N	025° 38,47' E	378,0	± 175	± 4,1	270,0	0,0	1016,3	b	282 / 16	16,6	17,2				
343	07.05.2006	16:38	Beginn Profil # 50	35° 24,30' N	025° 38,47' E	378,0	± 099	± 4,1	99,2	2,4	1016,3	b	282 / 16	16,6	17,2				
		17:09	Ende Profil # 50	35° 23,92' N	025° 41,35' E	204,0	± 099	± 4,0	270,0	0,0	1016,2	b	285 / 14	16,4	17,2				
344	07.05.2006	17:09	Beginn Profil # 51	35° 23,92' N	025° 41,35' E	204,0	± 353	± 3,5	353,3	3,4	1016,2	b	285 / 14	16,4	17,2				
		17:56	Ende Profil # 51	35° 27,25' N	025° 40,87' E	523,0	± 353	± 4,2	270,0	0,0	1016,5	b	283 / 13	16,4	17,2				
345	07.05.2006	17:56	Beginn Profil # 52	35° 27,25' N	025° 40,87' E	523,0	± 078	± 4,5	77,7	10,5	1016,5	b	283 / 13	16,4	17,2				
		20:20	Ende Profil # 52	35° 29,50' N	025° 53,50' E	758,0	± 078	± 4,2	270,0	0,0	1016,7	b	293 / 13	16,6	17,1				
346	07.05.2006	20:20	Beginn Profil # 53	35° 29,50' N	025° 53,50' E	758,0	± 357	± 3,6	357,2	3,2	1016,7	b	293 / 13	16,6	17,1				
		21:04	Ende Profil # 53	35° 32,66' N	025° 53,31' E	825,0	± 357	± 4,3	270,0	0,0	1016,5	b	287 / 11	16,3	17,1				
347	07.05.2006	21:04	Beginn Profil # 54	35° 32,66' N	025° 53,31' E	825,0	± 354	± 4,3	354,4	3,2	1016,5	b	287 / 11	16,3	17,1				
		21:49	Ende Profil # 54	35° 35,82' N	025° 52,93' E	628,0	± 354	± 4,2	270,0	0,0	1016,3	b	282 / 12	16,2	17,1				
348	07.05.2006	21:49	Beginn Profil # 55	35° 35,82' N	025° 52,93' E	628,0	± 021	± 4,2	21,0	14,9	1016,3	b	282 / 12	16,2	17,1				
	08.05.2006	01:19	Ende Profil # 55	35° 49,73' N	025° 59,49' E	961,0	± 021	± 4,1	270,0	0,0	1015,2	bc	276 / 14	16,3	17,3				
349	08.05.2006	01:19	Beginn Profil # 56	35° 49,73' N	025° 59,49' E	961,0	± 320	± 4,1	320,0	8,2	1015,2	bc	276 / 14	16,3	17,3				
		03:14	Ende Profil # 56	35° 56,00' N	025° 53,00' E	1091,0	± 320	± 4,1	319,8	0,3	1014,8	bc	291 / 13	16,1	17,2				
		03:20	Katamaran an Deck	35° 56,22' N	025° 52,77' E	989,0	± 320	± 2,0	321,0	0,2	1014,8	bc	282 / 13	16,2	17,2				
		03:25	Airgun an Deck	35° 56,37' N	025° 52,62' E	971,0	± 320	± 2,0	326,0	0,1	1014,8	bc	290 / 13	16,1	17,1				
		03:27	Streamer an Deck	35° 56,43' N	025° 52,57' E	965,0	± 320	± 2,0	270,0	0,0	1014,8	bc	290 / 13	16,1	17,1				
		03:28	Ende Station	35° 56,43' N	025° 52,57' E	965,0	± 320	± 2,0	264,1	15,0	1014,8	bc	290 / 13	16,1	17,1				
350	08.05.2006	05:32	Schiff @ Station	35° 54,89' N	025° 34,11' E	1164,0	± 291	± 0,0	270,0	0,0	1014,9	b/c	275 / 11	16,3	17,3			W 3	Heat Flow #: H0602P01
		05:33	HF (Heat Flow) z/W	35° 54,89' N	025° 34,11' E	1164,0	± 291	± 0,0	252,8	0,0	1015,1	b/c	253 / 12	16,3	17,3				Fieren 0,5 m/s - 1,5 m/s
		06:01	Boko/Hieven	35° 54,88' N	025° 34,07' E	1164,0	± 256	± 0,0	270,0	0,0	1015,2	b/c	253 / 12	16,3	17,2		1268		Hieven mit 0,5 m/s - 1,5 m/s

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		06:21	Ende Station	35° 54,88' N	025° 34,07' E	1164,0	± 256	± 0,0	93,0	0,6	1015,2	b/c	239 / 12	16,5	17,2	700			BOKO: 1260 m
351	08.05.2006	06:58	Schiff @ Station	35° 54,85' N	025° 34,78' E	1159,0	± 255	± 0,0	256,1	0,0	1015,3	b/c	242 / 14	16,7	17,3			W 3	Heat Flow #: H0602P02
		07:02	HF (Heat Flow) z/W	35° 54,84' N	025° 34,73' E	1160,0	± 258	± 0,0	72,8	0,0	1015,3	b/c	244 / 14	16,9	17,2	700			Fieren 0,5 m/s - 1,5 m/s
		07:08	Boko/Hieven	35° 54,85' N	025° 34,77' E	1161,0	± 260	± 0,0	270,0	0,0	1015,2	b/c	245 / 14	16,7	17,3		1263		Hieven mit 0,5 m/s - 1,5 m/s
		07:26	Ende Station	35° 54,85' N	025° 34,76' E	1161,0	± 260	± 0,0	91,7	0,7	1015,2	b/c	262 / 14	16,9	17,3	700			BOKO: 1250 m
352	08.05.2006	08:10	Schiff @ Station	35° 54,83' N	025° 35,58' E	1087,0	± 280	± 0,0	270,0	0,0	1015,2	b/c	271 / 15	16,9	17,4			W 3	Heat Flow #: H0602P03
		08:11	HF (Heat Flow) z/W	35° 54,83' N	025° 35,58' E	1087,0	± 280	± 0,0	321,0	0,0	1015,2	b/c	271 / 15	16,9	17,4	700			Fieren 0,5 m/s - 1,5 m/s
		08:18	Boko/Hieven	35° 54,84' N	025° 35,57' E	1123,0	± 282	± 0,0	270,0	0,0	1015,1	b/c	274 / 15	16,8	17,4		1188		Hieven mit 0,5 m/s - 1,5 m/s
		08:35	Ende Station	35° 54,84' N	025° 35,56' E	1085,0	± 287	± 0,0	270,0	0,7	1015,2	b/c	281 / 14	16,5	17,3	700			BOKO: 1170 m
353	08.05.2006	09:21	Schiff @ Station	35° 54,84' N	025° 36,46' E	1044,0	± 290	± 0,0	270,0	0,0	1015,2	bc	283 / 14	16,7	17,4			W 3	Heat Flow # H0602P04
		09:22	HF (Heat Flow) z/W	35° 54,84' N	025° 36,46' E	1044,0	± 290	± 0,0	270,0	0,0	1015,2	bc	283 / 14	16,7	17,4	700			Fieren 0,5 m/s - 1,5 m/s
		09:35	Boko/Hieven	35° 54,84' N	025° 36,45' E	1043,0	± 285	± 0,0	97,8	0,1	1015,2	bc	283 / 14	16,5	17,4		1132		Hieven mit 0,5 m/s - 1,5 m/s
		09:43	Ende Station	35° 54,83' N	025° 36,54' E	1044,0	± 280	± 0,0	88,4	0,4	1015,1	bc	271 / 14	16,9	17,4	700			BOKO: 1117 m
354	08.05.2006	10:08	Schiff @ Station	35° 54,84' N	025° 36,99' E	1059,0	± 280	± 0,0	270,0	0,0	1015,1	bc	287 / 14	16,9	17,6			W 3	Heat Flow # H0602P05
		10:09	HF (Heat Flow) z/W	35° 54,84' N	025° 36,99' E	1059,0	± 280	± 0,0	270,0	0,0	1015,1	bc	287 / 14	16,9	17,6	700			Fieren 0,5 m/s - 1,5 m/s
		10:23	Boko/Hieven	35° 54,84' N	025° 37,00' E	1060,0	± 285	± 0,0	117,2	0,1	1015,1	bc	287 / 14	17,1	17,6		1152		Hieven mit 0,5 m/s - 1,5 m/s
		10:32	Ende Station	35° 54,79' N	025° 37,12' E	1065,0	± 300	± 0,0	74,3	0,2	1015,2	bc	290 / 14	17,1	17,6	700			BOKO: 1138 m
355	08.05.2006	10:57	Schiff @ Station	35° 54,84' N	025° 37,34' E	1037,0	± 300	± 0,0	270,0	0,0	1015,2	b	293 / 13	17,5	17,5			W 3	Heat Flow # H0602P06
		10:58	HF (Heat Flow) z/W	35° 54,84' N	025° 37,34' E	1037,0	± 300	± 0,0	270,0	0,0	1015,2	b	293 / 13	17,5	17,5	700			Fieren 0,5 m/s - 1,5 m/s
		11:10	Boko/Hieven	35° 54,84' N	025° 37,33' E	1038,0	± 300	± 0,0	100,0	0,1	1015,2	b	298 / 13	17,4	17,5		1130		Hieven mit 0,5 m/s - 1,5 m/s
		11:18	Ende Station	35° 54,83' N	025° 37,40' E	1006,0	± 300	± 0,0	78,4	0,0	1015,2	b	298 / 13	17,4	17,5	700			BOKO: 1113 m
356	08.05.2006	11:24	Schiff @ Station	35° 54,84' N	025° 37,46' E	1003,0	± 295	± 0,0	180,0	0,0	1015,2	b	308 / 13	17,4	17,5			W 3	Heat Flow # H0602P07
		11:30	HF (Heat Flow) z/W	35° 54,83' N	025° 37,46' E	1001,0	± 305	± 0,0	321,0	0,0	1015,2	b	308 / 13	17,4	17,5	700			Fieren 0,5 m/s - 1,5 m/s
		11:42	Boko/Hieven	35° 54,85' N	025° 37,44' E	1007,0	± 305	± 0,0	137,7	0,1	1015,2	b	308 / 13	17,4	17,5		1096		Hieven mit 0,5 m/s - 1,5 m/s
		11:51	Ende Station	35° 54,77' N	025° 37,53' E	997,0	± 330	± 0,0	82,3	0,5	1015,2	b	308 / 13	17,4	17,5	700			BOKO: 1079 m
357	08.05.2006	12:29	Schiff @ Station	35° 54,84' N	025° 38,17' E	1095,0	± 310	± 0,0	270,0	0,0	1015,0	b	304 / 14	17,4	17,5			W 3	Heat Flow # H0602P08
		12:30	HF (Heat Flow) z/W	35° 54,84' N	025° 38,17' E	1095,0	± 310	± 0,0	219,0	0,0	1015,0	b	304 / 14	17,4	17,5	700			Fieren 0,5 m/s - 1,5 m/s
		12:41	Boko/Hieven	35° 54,83' N	025° 38,16' E	1096,0	± 305	± 0,0	125,2	0,1	1015,0	b	304 / 14	17,4	17,5		1190		Hieven mit 0,5 m/s - 1,5 m/s
		12:47	Ende Station	35° 54,79' N	025° 38,23' E	1102,0	± 330	± 0,0	84,8	0,4	1015,0	b	304 / 14	17,4	17,5	900			BOKO: 1174 m
358	08.05.2006	13:14	Schiff @ Station	35° 54,83' N	025° 38,77' E	1102,0	± 328	± 0,0	270,0	0,0	1014,8	b	311 / 14	17,3	17,5			W 3	Heat Flow # H0602P09
		13:21	HF (Heat Flow) z/W	35° 54,83' N	025° 38,79' E	1102,0	± 305	± 0,0	301,7	0,0	1014,8	b	308 / 14	17,2	17,5	900			Fieren 0,5 m/s - 1,5 m/s
		13:31	Boko/Hieven	35° 54,84' N	025° 38,77' E	1102,0	± 315	± 0,0	321,0	0,0	1014,8	b	314 / 14	17,3	17,5		1189		Hieven mit 0,5 m/s - 1,5 m/s
		13:36	Ende Station	35° 54,85' N	025° 38,76' E	1102,0	± 315	± 0,0	91,7	0,7	1014,7	b	311 / 14	17,8	17,6	900			BOKO: 1174 m
359	08.05.2006	14:22	Schiff @ Station	35° 54,83' N	025° 39,57' E	1138,0	± 316	± 0,0	270,0	0,0	1014,8	b	311 / 14	17,3	17,5			W 3	Heat Flow # H0602P10
		14:25	HF (Heat Flow) z/W	35° 54,83' N	025° 39,57' E	1138,0	± 316	± 0,0	306,5	0,1	1014,8	b	311 / 14	17,3	17,5	900			Fieren 0,5 m/s - 1,5 m/s
		14:37	Boko/Hieven	35° 54,86' N	025° 39,52' E	1139,0	± 316	± 0,0	141,0	0,1	1014,7	b	319 / 11	17,3	17,6		1227		Hieven mit 0,5 m/s - 1,5 m/s
		14:42	Ende Station	35° 54,82' N	025° 39,56' E	1143,0	± 330	± 0,0	87,7	1,0	1014,7	b	319 / 11	17,3	17,6	1000			BOKO: 1213 m
360	08.05.2006	15:31	Schiff @ Station	35° 54,86' N	025° 40,77' E	1270,0	± 330	± 0,0	321,0	0,0	1014,8	b	294 / 12	16,8	17,5			W 3	Heat Flow # H0602P11
		15:36	HF (Heat Flow) z/W	35° 54,87' N	025° 40,76' E	1269,0	± 305	± 0,0	252,8	0,0	1014,8	b	301 / 12	17,1	17,6	1000			Fieren 0,5 m/s - 1,5 m/s
		15:47	Boko/Hieven	35° 54,86' N	025° 40,72' E	1268,0	± 306	± 0,0	270,0	0,0	1014,7	b	305 / 12	17,2	17,4		1372		Hieven mit 0,5 m/s - 1,5 m/s
		15:52	Ende Station	35° 54,86' N	025° 40,69' E	1268,0	± 305	± 0,0	91,2	0,5	1014,7	b	302 / 12	16,9	17,6	1100			BOKO: 1350 m
361	08.05.2006	16:25	Schiff @ Station	35° 54,85' N	025° 41,27' E	1267,0	± 319	± 0,0	270,0	0,0	1014,6	b	298 / 13	16,8	17,5			W 3	Heat Flow # H0602P12
		16:28	HF (Heat Flow) z/W	35° 54,85' N	025° 41,27' E	1267,0	± 325	± 0,0	39,0	0,0	1014,5	b	297 / 13	16,9	17,5	1100			Fieren 0,5 m/s - 1,5 m/s
		16:39	Boko/Hieven	35° 54,87' N	025° 41,29' E	1266,0	± 315	± 0,0	270,0	0,0	1014,7	b	297 / 13	16,9	17,4		1372		Hieven mit 0,5 m/s - 1,5 m/s
		16:42	Ende Station	35° 54,87' N	025° 41,28' E	1266,0	± 315	± 0,0	270,0	0,0	1014,7	b	297 / 13	16,7	17,4	1300			BOKO: 1350 m
361-2	08.05.2006	16:42	Schiff @ Station	35° 54,87' N	025° 41,28' E	1266,0	± 315	± 0,0	270,0	0,0	1014,7	b	297 / 13	16,7	17,4			W 3	Heat Flow # H0602P12b
		16:42	HF (Heat Flow) z/W	35° 54,87' N	025° 41,28' E	1266,0	± 315	± 0,0	321,0	0,0	1014,7	b	297 / 13	16,7	17,4	1300			Fieren 0,5 m/s - 1,5 m/s
		16:49	Boko/Hieven	35° 54,89' N	025° 41,26' E	1267,0	± 315	± 0,0	141,0	0,0	1014,7	b	298 / 13	16,9	17,5		1368		Hieven mit 0,5 m/s - 1,5 m/s
		17:13	HF (Heat Flow) a/D	35° 54,87' N	025° 41,28' E	1266,0	± 310	± 0,0	270,0	0,0	1014,7	b	299 / 13	17,0	17,5				BOKO: 1353 m

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		17:13	Ende Station	35° 54,87' N	025° 41,28' E	1266,0	± 310	± 0,0	199,9	3,1	1014,7	b	299 / 13	17,0	17,5				
362	08.05.2006	18:07	Beginn Profil # 57	35° 52,00' N	025° 40,00' E	1327,0	± 270	± 6,0	270,0	4,9	1015,1	b/c	286 / 13	16,9	17,5				Multibeam Transect
		18:57	Ende Profil # 57	35° 52,00' N	025° 34,00' E	1211,0	± 270	± 6,0	270,0	0,0	1015,7	b/c	270 / 12	16,8	17,5				
363	08.05.2006	18:57	Beginn Profil # 58	35° 52,00' N	025° 34,00' E	1211,0	± 000	± 6,0	0,0	5,5	1015,7	b/c	270 / 12	16,8	17,5				
		19:54	Ende Profil # 58	35° 57,50' N	025° 34,00' E	1550,0	± 000	± 6,0	270,0	0,0	1016,3	b/c	267 / 12	17,0	17,5				
364	08.05.2006	19:54	Beginn Profil # 59	35° 57,50' N	025° 34,00' E	1550,0	± 270	± 6,0	270,0	0,8	1016,3	b/c	267 / 12	17,0	17,5				
		20:03	Ende Profil # 59	35° 57,50' N	025° 33,00' E	1575,0	± 270	± 6,0	270,0	0,0	1016,2	b/c	276 / 13	16,7	17,4				
365	08.05.2006	20:03	Beginn Profil # 60	35° 57,50' N	025° 33,00' E	1575,0	± 180	± 6,0	180,0	5,5	1016,2	b/c	276 / 13	16,7	17,4				
		20:56	Ende Profil # 60	35° 52,00' N	025° 33,00' E	1261,0	± 180	± 6,0	270,0	0,0	1016,2	b/c	287 / 16	16,9	17,4				
366	08.05.2006	20:56	Beginn Profil # 61	35° 52,00' N	025° 33,00' E	1261,0	± 270	± 6,0	270,0	1,4	1013,6	b/c	287 / 16	16,9	17,4				
		21:15	Ende Profil # 61	35° 52,00' N	025° 31,30' E	1324,0	± 270	± 6,0	270,0	0,0	1013,6	b/c	287 / 16	16,9	17,4				
367	08.05.2006	21:15	Beginn Profil # 62	35° 52,00' N	025° 31,30' E	1324,0	± 360	± 6,0	180,0	5,5	1013,6	b/c	287 / 16	16,9	17,4				
		22:09	Ende Profil # 62	35° 57,50' N	025° 31,30' E	1608,0	± 360	± 6,0	270,0	0,0	1013,6	b/c	287 / 16	16,9	17,4				
368	08.05.2006	22:09	Beginn Profil # 63	35° 57,50' N	025° 31,30' E	1608,0	± 270	± 6,0	270,0	1,1	1015,9	bc	277 / 15	17,0	17,3				
		22:21	Ende Profil # 63	35° 57,50' N	025° 30,00' E	1610,0	± 270	± 6,0	270,0	0,0	1015,9	bc	277 / 15	17,0	17,3				
369	08.05.2006	22:21	Beginn Profil # 63	35° 57,50' N	025° 30,00' E	1610,0	± 180	± 6,0	180,0	3,5	1015,9	bc	277 / 15	17,0	17,3				
		22:57	Ende Profil # 63	35° 54,00' N	025° 30,00' E	1279,0	± 180	± 6,0	270,0	0,0	1015,5	c	273 / 18	16,6	17,3				
370	08.05.2006	22:57	Beginn Profil # 64	35° 54,00' N	025° 30,00' E	1279,0	± 270	± 6,0	270,0	6,5	1015,5	c	273 / 18	16,6	17,3				
	09.05.2006	00:08	Ende Profil # 64	35° 54,00' N	025° 22,00' E	1701,0	± 270	± 6,0	270,0	0,0	1015,1	bc	270 / 18	16,9	17,3				
371	09.05.2006	00:08	Beginn Profil # 65	35° 54,00' N	025° 22,00' E	1701,0	± 360	± 6,0	180,0	1,0	1015,1	bc	270 / 18	16,9	17,3				
		00:17	Ende Profil # 65	35° 55,00' N	025° 22,00' E	1747,0	± 360	± 6,0	270,0	0,0	1015,1	bc	270 / 18	16,9	17,3				
372	09.05.2006	00:17	Beginn Profil # 66	35° 55,00' N	025° 22,00' E	1747,0	± 090	± 6,0	270,0	6,1	1015,1	bc	270 / 18	16,9	17,3				
		01:16	Ende Profil # 66	35° 55,00' N	025° 29,50' E	1625,0	± 090	± 6,0	270,0	0,0	1015,2	bc	288 / 18	16,6	17,4				
373	09.05.2006	01:16	Beginn Profil # 67	35° 55,00' N	025° 29,50' E	1625,0	± 360	± 6,0	180,0	1,0	1015,2	bc	288 / 18	16,6	17,4				
		01:33	Ende Profil # 67	35° 56,00' N	025° 29,50' E	1626,0	± 360	± 6,0	270,0	0,0	1015,1	bc	286 / 17	16,3	17,3				
374	09.05.2006	01:33	Beginn Profil # 68	35° 56,00' N	025° 29,50' E	1626,0	± 270	± 6,0	269,8	3,3	1015,1	bc	286 / 17	16,3	17,3				
		02:03	Abbruch Profil # 68	35° 55,99' N	025° 25,39' E	1690,0	± 270	± 6,0	98,8	7,1	1015,1	bc	284 / 16	16,9	17,3				
375	09.05.2006	03:24	Schiff @ Station	35° 54,90' N	025° 34,07' E	1162,0	± 317	± 0,0	180,0	0,0	1015,8	c	282 / 13	16,6	17,2	0		W 3	Gravity Core #: GeoB10420-1
		03:27	SL 6m z/W	35° 54,91' N	025° 34,07' E	1161,0	± 305	± 0,0	202,0	0,1	1015,8	c	281 / 14	16,6	17,2				Fieren 0,5 m/s - 1,5 m/s
		03:50	Boko/Hieven	35° 54,85' N	025° 34,04' E	1165,0	± 290	± 0,0	28,4	0,0	1015,9	c	281 / 12	16,6	17,4		1262		Hieven mit 0,5 m/s - 1,5 m/s
		04:15	SL 6m a/D	35° 54,88' N	025° 34,06' E	1164,0	± 270	± 0,0	270,0	0,0	1016,1	c	280 / 11	16,8	17,4	0			Boko: 1244 m
		04:15	Ende Station	35° 54,88' N	025° 34,06' E	1164,0	± 270	± 0,0	91,3	2,6	1016,1	c	280 / 11	16,8	17,4				
376	09.05.2006	05:02	Schiff @ Station	35° 54,82' N	025° 37,32' E	1011,0	± 314	± 0,0	180,0	0,0	1016,3	b/c	303 / 09	16,5	17,2			W 3	Gravity Core #: GeoB10421-1
		05:04	SL 6m z/W	35° 54,83' N	025° 37,32' E	1012,0	± 308	± 0,0	22,0	0,0	1016,3	b/c	308 / 09	16,7	17,0				Fieren 0,5 m/s - 1,5 m/s
		05:24	Boko/Hieven	35° 54,85' N	025° 37,33' E	1044,0	± 286	± 0,0	180,0	0,0	1016,6	b/c	289 / 09	16,5	17,3	1133	1133		Hieven mit 0,5 m/s - 1,5 m/s
		05:49	SL 6m a/D	35° 54,84' N	025° 37,33' E	1038,0	± 298	± 0,0	270,0	0,0	1016,6	b/c	298 / 09	16,6	17,3				Boko: 1115 m
		05:50	Ende Station	35° 54,84' N	025° 37,33' E	1038,0	± 298	± 0,0	270,0	0,0	1016,6	b/c	298 / 09	16,6	17,3				
376-2	09.05.2006	06:12	Schiff @ Station	35° 54,84' N	025° 37,34' E	1044,0	± 291	± 0,0	270,0	0,0	1016,9	b/c	294 / 09	16,5	17,3			W 3	Gravity Core #: GeoB10421-2
		06:12	SL 6m z/W	35° 54,84' N	025° 37,34' E	1044,0	± 291	± 0,0	180,0	0,0	1016,9	b/c	294 / 09	16,5	17,3				Fieren 0,5 m/s - 1,5 m/s
		06:34	Boko/Hieven	35° 54,85' N	025° 37,34' E	1043,0	± 293	± 0,0	202,0	0,0	1017,0	b/c	276 / 07	16,8	17,4	1137	1137		Hieven mit 0,5 m/s - 1,5 m/s
		06:58	SL 6m a/D	35° 54,83' N	025° 37,33' E	1039,0	± 303	± 0,0	270,0	0,0	1017,2	b/c	284 / 06	17,1	17,5				Boko: 1117 m
		06:58	Ende Station	35° 54,83' N	025° 37,33' E	1039,0	± 303	± 0,0	89,6	2,8	1017,2	b/c	284 / 06	17,1	17,5				
377	09.05.2006	07:41	Schiff @ Station	35° 54,85' N	025° 40,82' E	1273,0	± 282	± 0,0	270,0	0,0	1017,3	b/c	280 / 06	17,0	17,5			W 3	Gravity Core #: GeoB10422-1
		07:41	SL 6m z/W	35° 54,85' N	025° 40,82' E	1273,0	± 282	± 0,0	219,0	0,0	1017,3	b/c	280 / 06	17,0	17,5				Fieren 0,5 m/s - 1,5 m/s
		08:06	Boko/Hieven	35° 54,84' N	025° 40,81' E	1272,0	± 295	± 0,0	270,0	0,0	1017,4	b/c	295 / 06	16,9	17,7	1378	1378		Hieven mit 0,5 m/s - 1,5 m/s
		08:33	SL 6m a/D	35° 54,84' N	025° 40,80' E	1271,0	± 325	± 0,0	270,0	0,0	1017,5	b/c	301 / 06	16,9	17,6				Boko: 1364 m
		08:33	Ende Station	35° 54,84' N	025° 40,80' E	1271,0	± 325	± 0,0	307,1	3,6	1017,5	b/c	301 / 06	16,9	17,6				
378	09.05.2006	09:24	Schiff @ Station	35° 57,00' N	025° 37,27' E	1240,0	± 285	± 0,0	270,0	0,0	1017,6	c	259 / 04	17,1	18,1			W 3	Gravity Core #: GeoB10423-1
		09:25	SL 6m z/W	35° 57,00' N	025° 37,27' E	1240,0	± 285	± 0,0	306,5	0,1	1017,6	c	259 / 04	17,1	18,1				Fieren 0,5 m/s - 1,5 m/s

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		09:49	Boko/Hieven	35° 57,03' N	025° 37,22' E	1233,0	± 320	± 0,0	270,0	0,0	1017,3	c	270 / 04	17,1	17,9	1336	1336		Hieven mit 0,5 m/s - 1,5 m/s
		10:16	SL 6m a/D	35° 57,03' N	025° 37,28' E	1241,0	± 300	± 0,0	270,0	0,0	1017,3	c	276 / 04	17,2	18,2				Boko: 1324 m
		10:17	Ende Station	35° 57,03' N	025° 37,28' E	1241,0	± 300	± 0,0	177,6	1,6	1017,3	c	276 / 04	17,2	18,2				
379	09.05.2006	11:10	Schiff @ Station	35° 55,46' N	025° 37,36' E	1070,0	± 290	± 0,0	270,0	0,0	1017,0	bc	286 / 03	17,4	18,3			W 3	Gravity Core #: GeoB10424-1
		11:10	SL 6m z/W	35° 55,46' N	025° 37,36' E	1070,0	± 290	± 0,0	164,9	0,0	1017,0	bc	286 / 03	17,4	18,3				Fieren 0,5 m/s - 1,5 m/s
		11:33	Boko/Hieven	35° 55,43' N	025° 37,37' E	1069,0	± 330	± 0,0	118,8	0,1	1017,1	bc	var / 02	17,6	18,3	1157	1157		Hieven mit 0,5 m/s - 1,5 m/s
		11:57	SL 6m a/D	35° 55,39' N	025° 37,46' E	1070,0	± 020	± 0,0	270,0	0,0	1016,9	bc	283 / 04	17,5	18,7				Boko: 1138 m
		11:58	Ende Station	35° 55,39' N	025° 37,46' E	1070,0	± 020	± 0,0	174,4	25,2	1016,9	bc	283 / 04	17,5	18,7				
380	09.05.2006	14:42	Beginn Profil # 69, MB	35° 30,30' N	025° 40,50' E	671,0	± 168	± 6,0	168,1	5,9	1015,9	b	352 / 04	17,6	18,1				
		15:40	Ende Profil # 69, MB	35° 24,50' N	025° 42,00' E	208,0	± 168	± 6,0	270,0	0,0	1015,9	b	053 / 05	17,3	18,3				
381	09.05.2006	15:40	Beginn Profil # 70, MB	35° 24,50' N	025° 42,00' E	208,0	± 292	± 6,0	292,2	1,3	1015,9	b	053 / 05	17,3	18,3				
		16:01	Ende Profil # 70, MB	35° 25,00' N	025° 40,50' E	343,0	± 292	± 6,0	270,0	0,0	1015,9	b	072 / 05	17,2	18,5				
382	09.05.2006	16:01	Beginn Profil # 71, MB	35° 25,00' N	025° 40,50' E	343,0	± 003	± 6,0	3,1	3,0	1015,9	b	072 / 05	17,2	18,5				
		16:30	Ende Profil # 71, MB	35° 28,00' N	025° 40,70' E	410,0	± 003	± 6,0	270,0	0,0	1015,9	bc	013 / 05	16,9	18,2				
383	09.05.2006	16:30	Beginn Profil # 72, MB	35° 28,00' N	025° 40,70' E	410,0	± 270	± 6,0	270,0	1,5	1015,9	bc	014 / 06	16,9	18,2				
		16:45	Ende Profil # 72, MB	35° 28,00' N	025° 38,90' E	569,0	± 270	± 6,0	270,0	0,0	1015,9	bc	013 / 05	16,9	18,2				
384	09.05.2006	16:45	Beginn Profil # 73, MB	35° 28,00' N	025° 38,90' E	569,0	± 178	± 6,0	178,4	3,0	1015,9	bc	014 / 05	16,9	18,2				
		17:13	Ende Profil # 73, MB	35° 25,00' N	025° 39,00' E	449,0	± 178	± 6,0	270,0	0,0	1016,0	c	134 / 5	17,0	18,4				
385	09.05.2006	17:13	Beginn Profil # 74, MB	35° 25,00' N	025° 39,00' E	449,0	± 270	± 6,0	270,0	1,0	1016,0	c	134 / 5	17,0	18,4				
		17:23	Ende Profil # 74, MB	35° 25,00' N	025° 37,80' E	452,0	± 270	± 6,0	270,0	0,0	1016,1	c	158 / 3	17,3	18,2				
386	09.05.2006	17:23	Beginn Profil # 75, MB	35° 25,00' N	025° 37,80' E	452,0	± 356	± 6,0	355,9	2,3	1016,1	c	158 / 3	17,3	18,2				
		17:46	Ende Profil # 75, MB	35° 27,30' N	025° 37,60' E	548,0	± 356	± 6,0	270,0	0,0	1016,1	c	211 / 3	16,9	18,1				
387	09.05.2006	17:46	Beginn Profil # 76, MB	35° 27,30' N	025° 37,60' E	548,0	± 012	± 6,0	11,5	2,0	1016,1	c	211 / 3	16,9	18,1				
		18:06	Ende Profil # 76, MB	35° 29,30' N	025° 38,10' E	621,0	± 012	± 6,0	270,0	0,0	1016,3	c	198 / 3	16,8	18,0				
388	09.05.2006	18:06	Beginn Profil # 77, MB	35° 29,30' N	025° 38,10' E	621,0	± 356	± 6,0	356,1	1,2	1016,3	c	198 / 3	16,8	18,0				
		18:18	Ende Profil # 77, MB	35° 30,50' N	025° 38,00' E	641,0	± 356	± 6,0	270,0	0,0	1016,5	c	232 / 4	16,9	17,9				
389	09.05.2006	18:18	Beginn Profil # 78, MB	35° 30,50' N	025° 38,00' E	641,0	± 270	± 6,0	270,0	1,9	1016,5	c	232 / 4	16,9	17,9				
		18:38	Ende Profil # 78, MB	35° 30,50' N	025° 35,70' E	466,0	± 270	± 6,0	270,0	0,0	1016,7	c	264 / 7	16,9	17,9				
390	09.05.2006	18:38	Beginn Profil # 79, MB	35° 30,50' N	025° 35,70' E	466,0	± 178	± 6,0	177,8	6,5	1016,7	c	264 / 7	16,9	17,9				
		19:45	Ende Profil # 79, MB	35° 24,00' N	025° 36,00' E	374,0	± 178	± 6,0	270,0	0,0	1016,9	c	261 / 8	17,0	17,9				
391	09.05.2006	19:45	Beginn Profil # 80, MB	35° 24,00' N	025° 36,00' E	374,0	± 270	± 6,0	270,0	0,8	1016,9	c	261 / 8	17,0	17,9				
		19:54	Ende Profil # 80, MB	35° 24,00' N	025° 35,00' E	404,0	± 270	± 6,0	270,0	0,0	1017,0	c	252 / 8	16,9	17,8				
392	09.05.2006	19:54	Beginn Profil # 81, MB	35° 24,00' N	025° 35,00' E	404,0	± 358	± 6,0	357,8	6,5	1017,0	c	252 / 8	16,9	17,8				
		20:57	Ende Profil # 81, MB	35° 30,50' N	025° 34,70' E	395,0	± 358	± 6,0	270,0	0,0	1016,6	c	274 / 10	16,8	17,7				
393	09.05.2006	20:57	Beginn Profil # 82, MB	35° 30,50' N	025° 34,70' E	395,0	± 358	± 6,0	270,0	0,7	1016,6	c	274 / 10	16,8	17,7				
		21:05	Ende Profil # 82, MB	35° 30,50' N	025° 33,80' E	360,0	± 358	± 6,0	270,0	0,0	1016,6	c	274 / 10	16,8	17,7				
394	09.05.2006	21:05	Beginn Profil # 83, MB	35° 30,50' N	025° 33,80' E	360,0	± 176	± 6,0	176,4	6,5	1016,6	c	274 / 10	16,8	17,7				
		22:09	Ende Profil # 83, MB	35° 24,00' N	025° 34,30' E	423,0	± 176	± 6,0	270,0	0,0	1016,5	c	291 / 14	17,0	17,7				
395	09.05.2006	22:09	Beginn Profil # 84, MB	35° 24,00' N	025° 34,30' E	423,0	± 270	± 6,0	270,0	0,4	1016,5	c	291 / 14	17,0	17,7				
		22:13	Ende Profil # 84, MB	35° 24,00' N	025° 33,80' E	428,0	± 270	± 6,0	270,0	0,0	1016,5	c	291 / 14	17,0	17,7				
396	09.05.2006	22:13	Beginn Profil # 85, MB	35° 24,00' N	025° 33,80' E	428,0	± 353	± 6,0	352,9	6,6	1016,5	c	291 / 14	17,0	17,7				
		23:19	Ende Profil # 85, MB	35° 30,50' N	025° 32,80' E	285,0	± 353	± 6,0	270,0	0,0	1015,7	bc	292 / 12	16,9	17,5				
397	09.05.2006	23:19	Beginn Profil # 86, MB	35° 30,50' N	025° 32,80' E	285,0	± 270	± 6,0	270,0	1,5	1015,7	bc	292 / 12	16,9	17,5				
		23:33	Ende Profil # 86, MB	35° 30,50' N	025° 31,00' E	294,0	± 270	± 6,0	270,0	0,0	1015,6	bc	292 / 12	17,0	17,5				
398	09.05.2006	23:33	Beginn Profil # 87, MB	35° 30,50' N	025° 31,00' E	294,0	± 167	± 6,0	167,2	7,7	1015,6	bc	292 / 12	17,0	17,5				
		01:11	Ende Profil # 87, MB	35° 23,00' N	025° 33,10' E	380,0	± 167	± 6,0	270,0	0,0	1015,3	bc	200 / 09	16,5	17,4				
399	10.05.2006	01:11	Beginn Profil # 88, MB	35° 23,00' N	025° 33,10' E	380,0	± 270	± 6,0	270,0	0,5	1015,3	bc	200 / 09	16,5	17,4				
		01:18	Ende Profil # 87, MB	35° 23,00' N	025° 32,50' E	377,0	± 270	± 6,0	270,0	0,0	1015,3	bc	199 / 08	16,5	17,4				
400	10.05.2006	01:18	Beginn Profil # 88, MB	35° 23,00' N	025° 32,50' E	377,0	± 347	± 6,0	346,8	3,6	1015,3	bc	199 / 08	16,5	17,4				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		02:00	Abbruch Profil # 88, MB	35° 26,54' N	025° 31,48' E	475,0	± 347	± 6,0	107,7	7,0	1015,1	bc	207 / 08	16,6	17,5				
401	10.05.2006	03:16	Schiff @ Station	35° 24,40' N	025° 39,71' E	346,0	± 289	± 0,0	270,0	0,0	1015,4	bc	123 / 06	17,0	17,3			W 3	Heat Flow #: H0603P01
		03:18	HF (Heat Flow) z/W	35° 24,40' N	025° 39,71' E	344,0	± 290	± 0,0	58,5	0,0	1015,4	bc	125 / 06	17,2	17,3	0			Fieren 0,5 m/s - 1,5 m/s
		03:38	Boko/Hieven	35° 24,42' N	025° 39,75' E	344,0	± 291	± 0,0	270,0	0,0	1015,6	bc	182 / 06	17,2	17,4		376		Hieven mit 0,5 m/s - 1,5 m/s
		03:42	Ende Station	35° 24,42' N	025° 39,77' E	343,0	± 291	± 0,0	341,0	0,3	1015,6	bc	178 / 06	17,3	17,4	250			BOKO: 370 m
402	10.05.2006	04:01	Schiff @ Station	35° 24,68' N	025° 39,66' E	402,0	± 324	± 0,0	58,5	0,0	1015,5	bc	192 / 06	17,7	17,5			W 3	Heat Flow #: H0603P02
		04:03	HF (Heat Flow) z/W	35° 24,69' N	025° 39,68' E	403,0	± 324	± 0,0	11,5	0,0	1015,5	bc	192 / 06	17,7	17,5	250			Fieren 0,5 m/s - 1,5 m/s
		04:11	Boko/Hieven	35° 24,73' N	025° 39,69' E	408,0	± 270	± 0,0	140,8	0,0	1015,5	bc	181 / 04	17,6	17,6		438		Hieven mit 0,5 m/s - 1,5 m/s
		04:14	Ende Station	35° 24,72' N	025° 39,70' E	407,0	± 280	± 0,0	353,9	0,4	1015,4	bc	167 / 04	17,6	17,6	300			BOKO: 420 m
403	10.05.2006	04:53	Schiff @ Station	35° 25,10' N	025° 39,65' E	424,0	± 283	± 0,0	270,0	0,0	1015,7	bc	205 / 06	17,7	17,6			W 3	Heat Flow #: H0603P03
		04:54	HF (Heat Flow) z/W	35° 25,10' N	025° 39,64' E	426,0	± 284	± 0,0	270,0	0,0	1015,7	bc	212 / 06	17,7	17,6	300			Fieren 0,5 m/s - 1,5 m/s
		05:05	Boko/Hieven	35° 25,10' N	025° 39,65' E	425,0	± 287	± 0,0	270,0	0,0	1015,7	b/c	205 / 06	17,8	17,6		463		Hieven mit 0,5 m/s - 1,5 m/s
		05:06	Ende Station	35° 25,10' N	025° 39,65' E	425,0	± 287	± 0,0	180,0	0,2	1015,7	b/c	205 / 06	17,8	17,6	350			BOKO: 450 m
404	10.05.2006	05:24	Schiff @ Station	35° 25,33' N	025° 39,65' E	429,0	± 271	± 0,0	270,0	0,0	1016,0	b/c	215 / 06	17,5	17,5			W 3	Heat Flow #: H0603P04
		05:25	HF (Heat Flow) z/W	35° 25,33' N	025° 39,65' E	429,0	± 270	± 0,0	320,8	0,0	1016,0	b/c	214 / 06	17,5	17,5		468		Fieren 0,5 m/s - 1,5 m/s
		05:33	Boko/Hieven	35° 25,34' N	025° 39,64' E	430,0	± 269	± 0,0	238,5	0,0	1016,0	b/c	211 / 06	17,5	17,5				Hieven mit 0,5 m/s - 1,5 m/s
		05:43	HF (Heat Flow) a/Deck	35° 25,33' N	025° 39,62' E	433,0	± 276	± 0,0	270,0	0,0	1016,0	b/c	221 / 05	18,4	17,6				BOKO: 453 m
		05:43	Ende Station	35° 25,33' N	025° 39,62' E	433,0	± 276	± 0,0	357,7	1,0	1016,0	b/c	221 / 05	18,4	17,6				
405	10.05.2006	06:07	Schiff @ Station	35° 26,33' N	025° 39,57' E	500,0	± 223	± 0,0	270,0	0,0	1016,1	b/c	220 / 06	18,5	17,5			W 3	Heat Flow #: H0603P05
		06:08	HF (Heat Flow) z/W	35° 26,33' N	025° 39,57' E	500,0	± 223	± 0,0	189,3	0,1	1016,1	b/c	220 / 06	18,5	17,5	350			Fieren 0,5 m/s - 1,5 m/s
		06:30	Boko/Hieven	35° 26,28' N	025° 39,56' E	498,0	± 303	± 0,0	180,0	0,0	1016,1	b/c	212 / 06	19,2	17,5		543		Hieven mit 0,5 m/s - 1,5 m/s
		06:34	Ende Station	35° 26,29' N	025° 39,56' E	499,0	± 300	± 0,0	8,1	0,2	1016,1	b/c	207 / 06	19,1	17,5	400			BOKO: 528 m @ 06:22
406	10.05.2006	06:52	Schiff @ Station	35° 26,52' N	025° 39,60' E	506,0	± 291	± 0,0	270,0	0,0	1016,0	b/c	230 / 06	19,3	17,6			W 3	Heat Flow #: H0603P06
		06:53	HF (Heat Flow) z/W	35° 26,52' N	025° 39,60' E	506,0	± 286	± 0,0	238,5	0,0	1016,0	b/c	230 / 06	19,3	17,6	0			Fieren 0,5 m/s - 1,5 m/s
		07:03	Boko/Hieven	35° 26,51' N	025° 39,58' E	507,0	± 295	± 0,0	270,0	0,0	1016,0	b/c	219 / 06	19,3	17,5		554		Hieven mit 0,5 m/s - 1,5 m/s
		07:06	Ende Station	35° 26,51' N	025° 39,57' E	508,0	± 308	± 0,0	358,0	0,9	1016,1	b/c	226 / 05	19,7	17,6	450			BOKO: 534 m @ 07:03
407	10.05.2006	07:50	Schiff @ Station	35° 27,43' N	025° 39,53' E	546,0	± 300	± 0,0	270,0	0,0	1016,3	b/c	198 / 03	19,3	17,7	450		W 3	Heat Flow #: H0603P07
		07:51	HF (Heat Flow) z/W	35° 27,43' N	025° 39,53' E	546,0	± 302	± 0,0	252,9	0,0	1016,3	b/c	198 / 03	19,4	17,7		593		Fieren 0,5 m/s - 1,5 m/s
		08:01	Boko/Hieven	35° 27,42' N	025° 39,49' E	547,0	± 319	± 0,0	270,0	0,0	1016,3	b/c	165 / 03	20,2	17,6	500			Hieven mit 0,5 m/s - 1,5 m/s
		08:04	Ende Station	35° 27,42' N	025° 39,48' E	548,0	± 341	± 0,0	4,2	0,3	1016,3	b/c	157 / 03	19,8	17,8				BOKO: 573 m @ 07:54
408	10.05.2006	08:27	Schiff @ Station	35° 27,75' N	025° 39,51' E	572,0	± 082	± 0,0	270,0	0,0	1016,3	b/c	139 / 03	19,2	17,7			W 3	Heat Flow #: H0603P08
		08:28	HF (Heat Flow) z/W	35° 27,75' N	025° 39,51' E	572,0	± 082	± 0,0	107,1	0,0	1016,3	b/c	140 / 03	19,2	17,7	500			Fieren 0,5 m/s - 1,5 m/s
		08:37	Boko/Hieven	35° 27,74' N	025° 39,55' E	567,0	± 025	± 0,0	140,8	0,0	1016,3	b/c	144 / 03	19,9	17,8		644		Hieven mit 0,5 m/s - 1,5 m/s
		08:40	Ende Station	35° 27,73' N	025° 39,56' E	567,0	± 014	± 0,0	334,6	0,1	1016,3	b/c	110 / 03	19,4	17,9	550			BOKO: 624 m @ 08:30
409	10.05.2006	08:55	Schiff @ Station	35° 27,85' N	025° 39,49' E	594,0	± 356	± 0,0	270,0	0,0	1016,3	b/c	112 / 03	19,9	17,7			W 3	Heat Flow #: H0603P09
		08:56	HF (Heat Flow) z/W	35° 27,85' N	025° 39,49' E	594,0	± 356	± 0,0	180,0	0,0	1016,3	b/c	112 / 03	19,9	17,7	550			Fieren 0,5 m/s - 1,5 m/s
		09:04	Boko/Hieven	35° 27,87' N	025° 39,49' E	595,0	± 355	± 0,0	180,0	0,0	1016,3	b/c	112 / 03	19,9	17,7		641		Hieven mit 0,5 m/s - 1,5 m/s
		09:07	Ende Station	35° 27,88' N	025° 39,49' E	595,0	± 355	± 0,0	3,3	0,1	1016,3	b/c	112 / 03	19,9	17,7	550			BOKO: 631 m @ 08:57
410	10.05.2006	09:16	Schiff @ Station	35° 28,02' N	025° 39,50' E	597,0	± 360	± 0,0	270,0	0,0	1016,1	b/c	096 / 02	19,5	17,8			W 3	Heat Flow #: H0603P10
		09:17	HF (Heat Flow) z/W	35° 28,02' N	025° 39,50' E	597,0	± 360	± 0,0	180,0	1,0	1016,1	b/c	096 / 02	19,5	17,8	550			Fieren 0,5 m/s - 1,5 m/s
		09:25	Boko/Hieven	35° 29,00' N	025° 39,50' E	599,0	± 360	± 0,0	180,0	0,0	1016,1	b/c	096 / 02	19,5	17,8		648		Hieven mit 0,5 m/s - 1,5 m/s
		09:27	Ende Station	35° 28,99' N	025° 39,50' E	599,0	± 360	± 0,0	180,0	1,4	1016,1	b/c	096 / 02	19,5	17,8	500			BOKO: 632 m @ 09:18
411	10.05.2006	09:56	Schiff @ Station	35° 27,59' N	025° 39,50' E	564,0	± 010	± 0,0	270,0	0,0	1015,7	bc	075 / 06	19,3	17,9			W 3	Heat Flow #: H0603P11
		09:57	HF (Heat Flow) z/W	35° 27,59' N	025° 39,50' E	564,0	± 010	± 0,0	292,3	0,0	1015,7	bc	075 / 06	19,3	17,9	500			Fieren 0,5 m/s - 1,5 m/s
		10:06	Boko/Hieven	35° 27,60' N	025° 39,47' E	562,0	± 360	± 0,0	270,0	0,0	1015,6	bc	100 / 06	19,1	17,9		610		Hieven mit 0,5 m/s - 1,5 m/s
		10:18	HF (Heat Flow) a/Deck	35° 27,60' N	025° 39,41' E	559,0	± 020	± 0,0	270,0	0,0	1015,6	bc	100 / 06	19,1	17,9				BOKO: 600 m @ 09:58
		10:19	Ende Station	35° 27,60' N	025° 39,41' E	559,0	± 020	± 0,0	152,2	0,2	1015,6	bc	100 / 06	19,1	17,9				
412	10.05.2006	10:35	Schiff @ Station	35° 27,43' N	025° 39,52' E	546,0	± 020	± 0,0	270,0	0,0	1015,5	bc	112 / 09	18,9	18,3			W 3	Gravity Core #: GeoB10425-1
		10:36	SL 6 m z/W	35° 27,43' N	025° 39,52' E	546,0	± 020	± 0,0	180,0	0,0	1015,5	bc	112 / 09	18,9	18,3				Fieren 0,5 m/s - 1,5 m/s

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		10:50	Boko/Hieven	35° 27,47' N	025° 39,52' E	545,0	± 090	± 0,0	270,0	0,1	1015,5	bc	112 / 09	18,9	18,3	582	582		Hieven mit 0,5 m/s - 1,5 m/s
		11:04	SL 6 m a/D	35° 27,47' N	025° 39,66' E	549,0	± 090	± 0,0	270,0	0,0	1015,6	c	106 / 08	19,3	18,6				BOKO: 570
		11:05	Ende Station	35° 27,47' N	025° 39,66' E	549,0	± 090	± 0,0	178,9	3,1	1015,6	c	106 / 08	19,3	18,6				
413	10.05.2006	11:40	Schiff @ Station	35° 24,41' N	025° 39,73' E	342,0	± 090	± 0,0	270,0	0,0	1015,6	c	028 / 07	20,6	18,9			W 3	Gravity Core #: GeoB10426-1
		11:41	SL 6 m z/W	35° 24,41' N	025° 39,73' E	342,0	± 090	± 0,0	219,2	0,0	1015,6	c	028 / 07	20,6	18,9				Fieren 0,5 m/s - 1,5 m/s
		11:49	Boko/Hieven	35° 24,39' N	025° 39,71' E	337,0	± 090	± 0,0	135,6	0,1	1015,6	c	028 / 07	20,6	18,9	374	374		Hieven mit 0,5 m/s - 1,5 m/s
		12:00	SL 6 m a/D	35° 24,34' N	025° 39,77' E	324,0	± 090	± 0,0	270,0	0,0	1015,6	c	028 / 07	20,6	18,9				BOKO: 364
		12:01	Ende Station	35° 24,34' N	025° 39,77' E	324,0	± 090	± 0,0	333,9	0,1	1015,6	c	028 / 07	20,6	18,9				
414	10.05.2006	12:35	Schiff @ Station	35° 24,39' N	025° 39,74' E	339,0	± 290	± 0,0	270,0	0,0	1015,7	c	064 / 07	19,1	18,1			W 2	CPT #: GeoB10427-1
		12:39	CPT z/W	35° 24,39' N	025° 39,74' E	339,0	± 290	± 0,0	270,0	0,0	1015,7	c	064 / 07	19,1	18,1				Fieren 0,5 m/s - 1,5 m/s
		12:56	Boko/Hieven	35° 24,39' N	025° 39,71' E	341,0	± 275	± 0,0	283,8	0,0	1015,4	c	076 / 07	20,2	18,4	401	401		Hieven mit 0,5 m/s - 1,5 m/s
		13:06	CPT a/D	35° 24,40' N	025° 39,66' E	347,0	± 286	± 0,0	270,0	0,0	1015,1	bc	078 / 09	19,1	18,3				
		13:06	Ende @ Station	35° 24,40' N	025° 39,66' E	347,0	± 286	± 0,0	72,9	0,0	1015,1	bc	078 / 09	19,1	18,3				
414-2	10.05.2006	13:18	Schiff @ Station	35° 24,41' N	025° 39,70' E	347,0	± 290	± 0,0	39,2	0,0	1015,0	bc	094 / 09	19,3	18,2			W 2	CPT #: GeoB10427-2
		13:19	CPT z/W	35° 24,42' N	025° 39,71' E	347,0	± 274	± 0,0	161,9	0,1	1015,0	bc	094 / 09	20,6	18,2				Fieren 0,5 m/s - 1,5 m/s
		13:36	Boko/Hieven	35° 24,37' N	025° 39,73' E	334,0	± 217	± 0,0	157,8	0,0	1014,8	bc	088 / 09	19,6	19,1	365	365		Hieven mit 0,5 m/s - 1,5 m/s
		13:42	CPT a/D	35° 24,35' N	025° 39,74' E	326,0	± 197	± 0,0	270,0	0,0	1014,8	bc	081 / 09	19,9	19,5				
		13:42	Ende @ Station	35° 24,35' N	025° 39,74' E	326,0	± 197	± 0,0	349,2	0,3	1014,8	bc	081 / 09	19,9	19,5				
415	10.05.2006	13:59	Schiff @ Station	35° 24,65' N	025° 39,67' E	390,0	± 154	± 0,0	140,8	0,0	1014,8	bc	072 / 09	19,3	18,9			W 2	CPT #: GeoB10428-1
		14:01	CPT z/W	35° 24,64' N	025° 39,68' E	386,0	± 137	± 0,0	97,8	0,1	1014,8	bc	072 / 08	19,3	18,9				Fieren 0,5 m/s - 1,5 m/s
		14:16	Boko/Hieven	35° 24,63' N	025° 39,77' E	379,0	± 169	± 0,0	121,5	0,1	1014,8	bc	075 / 08	19,6	18,1	456	456		Hieven mit 0,5 m/s - 1,5 m/s
		14:24	CPT a/D	35° 24,60' N	025° 39,83' E	371,0	± 194	± 0,0	270,0	0,0	1014,7	bc	083 / 08	19,5	18,1				
		14:24	Ende @ Station	35° 24,60' N	025° 39,83' E	371,0	± 194	± 0,0	343,6	0,5	1014,7	bc	083 / 08	19,5	18,1				
416	10.05.2006	14:56	Schiff @ Station	35° 25,10' N	025° 39,65' E	424,0	± 281	± 0,0	270,0	0,0	1014,5	bc	077 / 08	21,5	19,1			W 2	CPT #: GeoB10429-1
		14:59	CPT z/W	35° 25,10' N	025° 39,63' E	426,0	± 307	± 0,0	270,0	0,0	1014,5	bc	078 / 08	19,5	19,1				Fieren 0,5 m/s - 1,5 m/s
		15:13	Boko/Hieven	35° 25,10' N	025° 39,59' E	428,0	± 287	± 0,0	180,0	0,0	1014,5	bc	076 / 08	19,9	18,9	461	461		Hieven mit 0,5 m/s - 1,5 m/s
		15:27	CPT a/D	35° 25,09' N	025° 39,59' E	427,0	± 332	± 0,0	270,0	0,0	1014,5	bc	080 / 08	19,8	18,4				
		15:27	Ende @ Station	35° 25,09' N	025° 39,59' E	427,0	± 332	± 0,0	13,9	0,2	1014,5	bc	080 / 08	19,8	18,4				
417	10.05.2006	15:42	Schiff @ Station	35° 25,32' N	025° 39,66' E	431,0	± 266	± 0,0	270,0	0,0	1014,6	bc	099 / 08	19,5	18,4			W 2	CPT #: GeoB10430-1
		15:43	CPT z/W	35° 25,32' N	025° 39,64' E	432,0	± 271	± 0,0	247,8	0,1	1014,6	bc	099 / 08	19,5	18,4				Fieren 0,5 m/s - 1,5 m/s
		15:58	Boko/Hieven	35° 25,30' N	025° 39,58' E	432,0	± 279	± 0,0	140,8	0,0	1014,6	bc	092 / 07	20,4	18,6	478	478		Hieven mit 0,5 m/s - 1,5 m/s
		16:06	CPT a/D	35° 25,29' N	025° 39,59' E	432,0	± 283	± 0,0	270,0	0,0	1014,6	bc	095 / 07	20,7	18,5				
		16:06	Ende @ Station	35° 25,29' N	025° 39,59' E	432,0	± 283	± 0,0	165,7	0,9	1014,6	bc	095 / 07	20,7	18,5				
418	10.05.2006	17:16	Schiff @ Station	35° 24,46' N	025° 39,85' E	345,0	± 033	± 3,8	39,2	0,2	1015,0	b/c	076 / 07	19,8	18,8				Seismik Profilfahrt
		17:19	Streamer z/W	35° 24,61' N	025° 40,00' E	364,0	± 025	± 3,5	31,4	0,2	1015,0	b/c	076 / 07	19,8	18,8				Profil-Nr. Geophysick: GeoB06-181/188
		17:22	Airgun z/W	35° 24,77' N	025° 40,12' E	376,0	± 023	± 3,4	32,1	0,2	1015,0	b/c	076 / 07	19,8	18,8				
		17:25	Katamaran z/W	35° 24,90' N	025° 40,22' E	334,0	± 023	± 3,5	28,5	0,2	1015,0	b/c	076 / 07	19,8	18,8				
		17:28	Profilanfang	35° 25,08' N	025° 40,34' E	348,0	± 029	± 4,1	33,3	4,1	1015,0	b/c	076 / 07	19,8	18,8				
		18:26	Profilende	35° 28,50' N	025° 43,10' E	560,0	± 033	± 4,3	270,0	0,0	1015,4	b/c	107 / 07	19,1	18,9				
419	10.05.2006	18:26	Profilanfang	35° 28,50' N	025° 43,10' E	560,0	± 348	± 4,3	347,7	1,5	1015,4	b/c	107 / 07	19,1	18,9				
		18:48	Profilende	35° 30,00' N	025° 42,70' E	700,0	± 348	± 4,0	270,0	0,0	1015,5	b/c	096 / 08	19,1	18,8				
420	10.05.2006	18:48	Profilanfang	35° 30,00' N	025° 42,70' E	700,0	± 267	± 3,9	267,3	10,8	1015,5	b/c	096 / 08	19,1	18,8				
		21:17	Profilende	35° 29,50' N	025° 29,50' E	300,0	± 267	± 4,2	270,0	0,0	1015,4	bc	030 / 04	19,1	18,4				
421	11.05.2006	21:17	Profilanfang	35° 29,50' N	025° 29,50' E	300,0	± 163	± 4,0	163,4	4,0	1015,4	bc	030 / 04	19,1	18,4				
		22:13	Profilende	35° 25,63' N	025° 30,92' E	462,0	± 163	± 4,0	270,0	0,0	1015,0	b	011 / 05	18,6	18,4				
422	11.05.2006	22:13	Profilanfang	35° 25,63' N	025° 30,92' E	462,0	± 253	± 4,0	253,8	1,6	1015,0	b	011 / 05	18,6	18,4				
		22:37	Profilende	35° 25,17' N	025° 28,98' E	418,0	± 253	± 4,0	270,0	0,0	1015,0	b	011 / 05	18,6	18,4				
423	11.05.2006	22:37	Profilanfang	35° 25,17' N	025° 28,98' E	418,0	± 343	± 3,9	344,8	0,5	1015,0	b	011 / 05	18,6	18,4				
		22:45	Profilende	35° 25,68' N	025° 28,81' E	416,0	± 343	± 4,2	270,0	0,0	1015,0	b	011 / 05	18,6	18,4				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
424	11.05.2006	22:45	Profilanfang	35° 25,68' N	025° 28,81' E	416,0	± 073	± 4,0	73,6	1,6	1015,0	b	011 / 05	18,6	18,4				
		23:09	Profilende	35° 26,13' N	025° 30,69' E	448,0	± 073	± 4,0	270,0	0,0	1015,0	b	011 / 05	18,4	18,4				
425	11.05.2006	23:09	Profilanfang	35° 26,13' N	025° 30,69' E	448,0	± 163	± 4,0	162,8	2,2	1015,0	b	011 / 05	18,4	18,4				
		23:40	Profilende	35° 24,00' N	025° 31,50' E	429,0	± 163	± 4,3	270,0	0,0	1014,3	b	068 / 06	18,4	18,5				
426	11.05.2006	23:40	Profilanfang	35° 24,00' N	025° 31,50' E	429,0	± 073	± 4,1	73,3	11,5	1014,3	b	068 / 06	18,4	18,5				
	11.05.2006	02:26	Profilende	35° 27,30' N	025° 45,00' E	443,0	± 073	± 4,0	270,0	0,0	1014,5	b	198 / 05	17,1	18,1				
427	11.05.2006	02:26	Profilanfang	35° 27,30' N	025° 45,00' E	443,0	± 078	± 4,0	78,4	2,5	1014,5	b	198 / 05	17,1	18,1				
		03:02	Profilende (Abbruch)	35° 27,80' N	025° 48,00' E	478,0	± 078	± 4,0	84,6	0,1	1014,8	b	173 / 06	17,8	17,9				Abbruch Seismik-Profil
		03:04	Katamaran an Deck	35° 27,81' N	025° 48,13' E	480,0	± 076	± 2,0	76,2	0,1	1014,8	b	173 / 05	17,8	17,9				
		03:07	Airgun an Deck	35° 27,84' N	025° 48,28' E	476,0	± 075	± 2,0	81,8	0,1	1014,8	b	172 / 05	17,8	17,9				
		03:11	Streamer an Deck	35° 27,86' N	025° 48,45' E	481,0	± 076	± 2,0	280,8	7,5	1014,9	b	152 / 06	17,5	17,9				
428	11.05.2006	04:16	Schiff @ Station	35° 29,26' N	025° 39,45' E	634,0	± 053	± 0,0	270,0	0,0	1015,5	b	096 / 07	17,6	18,3			W 3	Heat Flow #: H0604P01
		04:18	HF (Heat Flow) z/W	35° 29,26' N	025° 39,47' E	634,0	± 053	± 0,0	180,0	0,1	1015,5	b	096 / 07	17,6	18,3	0			Fieren 0,5 m/s - 1,5 m/s
		04:45	Boko/Hieven	35° 29,17' N	025° 39,47' E	630,0	± 320	± 0,0	301,6	0,0	1015,7	b	009 / 04	18,2	18,3		687		Hieven mit 0,5 m/s - 1,5 m/s
		04:48	Ende Station	35° 29,18' N	025° 39,45' E	630,0	± 330	± 0,0	0,6	0,8	1015,8	b	350 / 04	18,3	18,2	550			BOKO: 670 m
429	11.05.2006	05:12	Schiff @ Station	35° 30,00' N	025° 39,46' E	633,0	± 284	± 0,0	181,1	0,4	1015,9	b/c	284 / 06	18,2	18,2			W 3	Heat Flow #: H0604P02
		05:16	HF (Heat Flow) z/W	35° 29,58' N	025° 39,45' E	633,0	± 305	± 0,0	320,8	0,0	1015,9	b/c	284 / 06	18,2	18,2	550			Fieren 0,5 m/s - 1,5 m/s
		05:25	Boko/Hieven	35° 29,59' N	025° 39,44' E	643,0	± 310	± 0,0	180,0	0,0	1015,9	b/c	284 / 06	18,2	18,2		691		Hieven mit 0,5 m/s - 1,5 m/s
		05:38	HF (Heat Flow) a/D	35° 29,61' N	025° 39,44' E	643,0	± 310	± 0,0	270,0	0,0	1015,9	b/c	265 / 06	18,2	17,8				BOKO: 670 m @ 05:18
		05:39	Ende Station	35° 29,61' N	025° 39,42' E	644,0	± 305	± 0,0	180,0	1,0	1016,0	b/c	252 / 06	18,3	18,1	0			
430	11.06.2005	05:58	Schiff @ Station	35° 30,64' N	025° 39,42' E	666,0	± 303	± 0,0	270,0	0,0	1016,6	b/c	271 / 06	18,2	18,4			W 3	Heat Flow #: H0604P03
		05:59	HF (Heat Flow) z/W	35° 30,64' N	025° 39,42' E	666,0	± 303	± 0,0	270,0	0,0	1016,4	b/c	271 / 06	18,2	18,4	0			Fieren 0,5 m/s - 1,5 m/s
		06:23	Boko/Hieven	35° 30,64' N	025° 39,37' E	665,0	± 321	± 0,0	180,0	0,0	1016,5	b/c	278 / 06	18,4	17,9		720		Hieven mit 0,5 m/s - 1,5 m/s
		06:26	Ende Station	35° 30,66' N	025° 39,37' E	666,0	± 304	± 0,0	8,2	0,2	1016,6	b/c	276 / 06	18,4	18,2	600			BOKO: 700 m @ 06:16
431	11.06.2005	06:43	Schiff @ Station	35° 30,83' N	025° 39,40' E	665,0	± 311	± 0,0	270,0	0,0	1016,6	b/c	337 / 06	18,5	18,4			W 3	Heat Flow #: H0604P04
		06:44	HF (Heat Flow) z/W	35° 30,83' N	025° 39,40' E	668,0	± 311	± 0,0	301,6	0,0	1016,6	b/c	337 / 06	18,5	18,4	600			Fieren 0,5 m/s - 1,5 m/s
		06:52	Boko/Hieven	35° 30,84' N	025° 39,38' E	668,0	± 317	± 0,0	180,0	0,0	1016,5	b/c	330 / 06	18,3	18,3		730		Hieven mit 0,5 m/s - 1,5 m/s
		06:56	Ende Station	35° 30,85' N	025° 39,38' E	671,0	± 316	± 0,0	2,6	0,2	1016,6	b/c	306 / 06	18,8	17,8	600			BOKO: 710 @ 06:45
432	11.05.2006	07:09	Schiff @ Station	35° 31,03' N	025° 39,39' E	667,0	± 318	± 0,0	270,0	0,0	1016,6	b/c	350 / 06	18,4	18,5			W 3	Heat Flow #: H0604P05
		07:10	HF (Heat Flow) z/W	35° 31,03' N	025° 39,39' E	667,0	± 318	± 0,0	320,9	0,0	1016,6	b/c	350 / 06	18,4	18,5				Fieren 0,5 m/s - 1,5 m/s
		07:19	Boko/Hieven	35° 31,04' N	025° 39,38' E	667,0	± 312	± 0,0	28,5	0,0	1016,7	b/c	332 / 06	18,3	18,4		726		Hieven mit 0,5 m/s - 1,5 m/s
		07:34	HF (Heat Flow) a/D	35° 31,07' N	025° 39,40' E	668,0	± 347	± 0,0	270,0	0,0	1016,6	b/c	339 / 06	18,3	18,5	0			BOKO: 726 m @ 07:12
		07:35	Ende Station	35° 31,07' N	025° 39,40' E	668,0	± 347	± 0,0	183,0	0,5	1016,6	b/c	339 / 06	18,3	18,5				Gerät upside/down
433	11.05.2006	08:09	Schiff @ Station	35° 30,61' N	025° 39,37' E	664,0	± 000	± 0,0	270,0	0,0	1016,9	b/c	013 / 09	18,3	18,9			W 3	Heat Flow #: H0604P03b
		08:10	HF (Heat Flow) z/W	35° 30,61' N	025° 39,37' E	664,0	± 000	± 0,0	344,8	0,0	1016,9	b/c	013 / 09	18,3	18,9	0			Fieren 0,5 m/s - 1,5 m/s
		08:35	Boko/Hieven	35° 30,64' N	025° 39,36' E	665,0	± 039	± 0,0	140,9	0,0	1017,0	b/c	020 / 10	18,2	18,1		722		Hieven mit 0,5 m/s - 1,5 m/s
		08:38	Ende Station	35° 30,63' N	025° 39,37' E	665,0	± 040	± 0,0	355,3	0,2	1017,1	b/c	039 / 10	18,3	18,3				BOKO: 702 m @ 08:28
434	11.05.2006	08:54	Schiff @ Station	35° 30,83' N	025° 39,35' E	667,0	± 038	± 0,0	270,0	0,0	1017,3	b/c	047 / 10	18,2	18,8	600		W 3	Heat Flow #: H0604P04b
		08:55	HF (Heat Flow) z/W	35° 30,83' N	025° 39,35' E	667,0	± 037	± 0,0	85,6	0,3	1017,3	b/c	047 / 10	18,2	18,8		722		Fieren 0,5 m/s - 1,5 m/s
		09:04	Boko/Hieven	35° 30,85' N	025° 39,67' E	669,0	± 040	± 0,0	270,0	0,0	1017,4	bc	064 / 10	18,2	18,7				Hieven mit 0,5 m/s - 1,5 m/s
		09:07	Ende Station	35° 30,85' N	025° 39,67' E	669,0	± 020	± 0,0	308,9	0,3	1017,4	bc	064 / 10	18,2	18,7	600			BOKO: 711 m @ 08:57
435	11.05.2006	09:13	Schiff @ Station	35° 31,06' N	025° 39,35' E	667,0	± 045	± 0,0	270,0	0,0	1017,2	bc	060 / 08	17,9	18,7	600		W 3	Heat Flow #: H0604P05b
		09:18	HF (Heat Flow) z/W	35° 31,06' N	025° 39,35' E	667,0	± 045	± 0,0	270,0	0,0	1017,2	bc	060 / 08	17,9	18,7				Fieren 0,5 m/s - 1,5 m/s
		09:26	Boko/Hieven	35° 31,06' N	025° 39,38' E	668,0	± 040	± 0,0	270,0	0,0	1017,2	bc	060 / 08	17,9	18,7		721		Hieven mit 0,5 m/s - 1,5 m/s
		09:30	Ende Station	35° 31,06' N	025° 39,38' E	668,0	± 020	± 0,0	350,8	0,2	1017,2	bc	060 / 08	17,9	18,7	600			BOKO: 709 m @ 09:20
436	11.05.2006	09:45	Schiff @ Station	35° 31,26' N	025° 39,34' E	658,0	± 060	± 0,0	270,0	0,0	1017,3	bc	065 / 08	18,3	18,8	600		W 3	Heat Flow #: H0604P06
		09:45	HF (Heat Flow) z/W	35° 31,26' N	025° 39,34' E	658,0	± 060	± 0,0	15,2	0,0	1017,3	bc	065 / 08	18,3	18,8				Fieren 0,5 m/s - 1,5 m/s
		09:53	Boko/Hieven	35° 31,29' N	025° 39,35' E	656,0	± 055	± 0,0	270,0	0,0	1017,3	bc	061 / 08	18,3	18,4	713	713		Hieven mit 0,5 m/s - 1,5 m/s
		09:56	Ende Station	35° 31,29' N	025° 39,35' E	656,0	± 055	± 0,0	353,8	0,2	1017,3	bc	061 / 08	18,3	18,4	600			BOKO: 702 m @ 09:46

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
437	11.05.2006	10:03	Schiff @ Station	35° 31,44' N	025° 39,33' E	645,0	± 055	± 0,0	270,0	0,0	1017,3	bc	069 / 08	18,2	18,6	600		W 3	Heat Flow #: H0604P07
		10:04	HF (Heat Flow) z/W	35° 31,44' N	025° 39,33' E	645,0	± 055	± 0,0	39,1	0,0	1017,3	bc	069 / 08	18,2	18,6				Fieren 0,5 m/s - 1,5 m/s
		10:14	Boko/Hieven	35° 31,45' N	025° 39,34' E	645,0	± 055	± 0,0	54,9	0,1	1017,3	bc	069 / 08	18,2	18,6	698	698		Hieven mit 0,5 m/s - 1,5 m/s
		10:28	HF (Heat Flow) a/D	35° 31,49' N	025° 39,41' E	652,0	± 055	± 0,0	270,0	0,0	1017,0	bc	057 / 10	18,2	18,5				BOKO: 686 m @ 10:05
		10:28	Ende Station	35° 31,49' N	025° 39,41' E	652,0	± 055	± 0,0	185,1	0,6	1017,0	bc	057 / 10	18,2	18,5				
438	11.05.2006	11:00	Schiff @ Station	35° 30,85' N	025° 39,34' E	667,0	± 075	± 0,0	270,0	0,0	1017,0	b	057 / 10	18,2	18,6			W 3	Gravity Core #: GeoB10431-1
		11:02	SL 6 m z/W	35° 30,85' N	025° 39,34' E	667,0	± 075	± 0,0	22,1	0,0	1017,0	b	057 / 10	18,2	18,6				Fieren 0,5 m/s - 1,5 m/s
		11:17	Boko/Hieven	35° 30,87' N	025° 39,35' E	667,0	± 065	± 0,0	50,7	0,1	1016,8	b	061 / 12	18,2	18,5	723	723		Hieven mit 0,5 m/s - 1,5 m/s
		11:36	SL 6 m a/D	35° 30,91' N	025° 39,41' E	669,0	± 060	± 0,0	270,0	0,0	1016,7	b	063 / 11	18,3	18,5				BOKO: 709 m
		11:37	Ende Station	35° 30,91' N	025° 39,41' E	669,0	± 060	± 0,0	340,8	0,1	1016,7	b	063 / 11	18,3	18,5				"BANANE"
439	11.05.2006	12:16	Schiff @ Station	35° 31,05' N	025° 39,35' E	667,0	± 065	± 0,0	270,0	0,0	1016,6	b	059 / 12	18,4	18,4			W 3	Gravity Core #: GeoB10432-1
		12:17	SL 3 m z/W	35° 31,05' N	025° 39,35' E	667,0	± 065	± 0,0	140,9	0,0	1016,6	b	059 / 12	18,4	18,4				Fieren 0,5 m/s - 1,5 m/s
		12:36	Boko/Hieven	35° 31,03' N	025° 39,37' E	667,0	± 080	± 0,0	116,2	0,0	1016,5	b	061 / 12	18,4	18,4	721	721		Hieven mit 0,5 m/s - 1,5 m/s
		12:51	SL 3 m a/D	35° 31,01' N	025° 39,42' E	668,0	± 070	± 0,0	270,0	0,0	1016,5	b	061 / 12	18,4	18,4				BOKO: 710 m
		12:52	Ende Station	35° 31,01' N	025° 39,42' E	668,0	± 060	± 0,0	210,4	5,7	1016,5	b	061 / 12	18,4	18,4				
440	11.05.2006	14:03	Schiff @ Station	35° 26,13' N	025° 35,91' E	492,0	± 067	± 0,0	270,0	0,0	1016,3	b	060 / 10	18,7	18,8			W 3	Heat Flow #: H0605P01
		14:05	HF (Heat Flow) z/W	35° 26,13' N	025° 35,94' E	492,0	± 048	± 0,0	12,5	0,1	1016,3	b	060 / 10	18,6	18,8	0			Fieren 0,5 m/s - 1,5 m/s
		14:28	Boko/Hieven	35° 26,24' N	025° 35,97' E	492,0	± 048	± 0,0	270,0	0,0	1016,2	b	064 / 10	18,6	18,6		541		Hieven mit 0,5 m/s - 1,5 m/s
		14:33	Ende Station	35° 26,24' N	025° 35,96' E	493,0	± 048	± 0,0	261,3	0,2	1016,1	b	069 / 10	18,8	18,6	400			BOKO: 527 m
		14:50	HF (Heat Flow) a/D	35° 26,21' N	025° 35,72' E	497,0	± 245	± 0,0	240,8	2,3	1016,1	b	081 / 09	18,7	18,7	0			
441	11.05.2006	15:22	Schiff @ Station	35° 25,08' N	025° 33,24' E	479,0	± 039	± 0,0	22,2	0,0	1015,8	b	100 / 09	18,8	18,6			W 3	Heat Flow #: H0605P02
		15:23	HF (Heat Flow) z/W	35° 25,10' N	025° 33,25' E	479,0	± 051	± 0,0	31,4	0,0	1015,8	b	100 / 09	18,7	18,6	0			Fieren 0,5 m/s - 1,5 m/s
		15:42	Boko/Hieven	35° 25,14' N	025° 33,28' E	480,0	± 010	± 0,0	270,0	0,0	1015,6	b	108 / 09	19,2	18,6		523		Hieven mit 0,5 m/s - 1,5 m/s
		15:45	Ende Station	35° 25,14' N	025° 33,27' E	481,0	± 010	± 0,0	65,4	0,8	1015,6	b	108 / 10	19,3	18,6	400			BOKO: 511 m
442	11.05.2006	16:17	Schiff @ Station	35° 25,49' N	025° 34,21' E	475,0	± 010	± 0,0	270,0	0,0	1015,4	b	105 / 10	18,9	18,6			W 3	Heat Flow #: H0605P03
		16:18	HF (Heat Flow) z/W	35° 25,49' N	025° 34,21' E	475,0	± 010	± 0,0	320,8	0,0	1015,4	b	105 / 09	18,9	18,6	400			Fieren 0,5 m/s - 1,5 m/s
		16:28	Boko/Hieven	35° 25,52' N	025° 34,18' E	475,0	± 010	± 0,0	270,0	0,0	1015,3	b	100 / 11	19,0	18,6		518		Hieven mit 0,5 m/s - 1,5 m/s
		16:31	Ende Station	35° 25,52' N	025° 34,17' E	476,0	± 010	± 0,0	70,7	0,4	1015,3	b	099 / 10	19,0	18,6	400			BOKO: 505 m
443	11.05.2006	16:50	Schiff @ Station	35° 25,66' N	025° 34,66' E	474,0	± 360	± 0,0	270,0	0,0	1015,4	b	088 / 11	18,9	18,6			W 3	Heat Flow #: H0605P04
		16:52	HF (Heat Flow) z/W	35° 25,66' N	025° 34,66' E	474,0	± 360	± 0,0	292,2	0,0	1015,4	b	087 / 11	18,7	18,6	400			Fieren 0,5 m/s - 1,5 m/s
		17:01	Boko/Hieven	35° 25,67' N	025° 34,63' E	474,0	± 355	± 0,1	320,8	0,0	1015,3	b/c	084 / 11	19,0	18,5		516		Hieven mit 0,5 m/s - 1,5 m/s
		17:05	Ende Station	35° 25,68' N	025° 34,62' E	474,0	± 353	± 0,2	67,1	0,3	1015,4	b/c	084 / 11	19,0	18,5	400			BOKO: 503 m
444	11.05.2006	17:24	Schiff @ Station	35° 25,79' N	025° 34,94' E	487,0	± 071	± 0,3	270,0	0,0	1015,3	b/c	073 / 11	19,0	18,6			W 3	Heat Flow #: H0605P05
		17:25	HF (Heat Flow) z/W	35° 25,79' N	025° 34,94' E	487,0	± 071	± 0,4	58,5	0,0	1015,3	b/c	073 / 11	19,0	18,6				Fieren 0,5 m/s - 1,5 m/s
		17:27	Boko	35° 25,80' N	025° 34,96' E	488,0	± 066	± 0,5	219,2	0,0	1015,3	b/c	070 / 11	19,0	18,4		530		Hieven mit 0,5 m/s - 1,5 m/s
		17:34	Hieven	35° 25,79' N	025° 34,95' E	488,0	± 059	± 0,6	39,2	0,0	1015,3	b/c	075 / 411	18,9	18,4				Boko @ 519 m
		17:37	Ende Station	35° 25,80' N	025° 34,96' E	488,0	± 067	± 0,7	72,9	0,0	1015,3	b/c	075 / 11	18,9	18,4	400			
445	11.05.2006	17:43	Schiff @ Station	35° 25,81' N	025° 35,00' E	487,0	± 082	± 0,8	270,0	0,0	1015,3	b/c	076 / 11	19,0	18,5			W 3	Heat Flow #: H0605P06
		17:44	HF (Heat Flow) z/W	35° 25,81' N	025° 35,00' E	487,0	± 082	± 0,9	39,2	0,0	1015,3	b/c	080 / 11	19,0	18,6	400			Fieren 0,5 m/s - 1,5 m/s
		17:52	Boko/Hieven	35° 25,82' N	025° 35,01' E	486,0	± 070	± 0,10	270,0	0,0	1015,3	b/c	082 / 11	19,1	18,4		532		Hieven mit 0,5 m/s - 1,5 m/s
		17:55	Ende Station	35° 25,82' N	025° 35,02' E	486,0	± 058	± 0,11	87,9	0,3	1015,3	b/c	087 / 11	19,1	18,3	400			Boko @ 520 m
446	11.05.2006	18:11	Schiff @ Station	35° 25,83' N	025° 35,36' E	485,0	± 089	± 0,12	180,0	0,1	1015,5	b/c	091 / 12	19,1	18,7			W 3	Heat Flow #: H0605P07
		18:12	HF (Heat Flow) z/W	35° 25,96' N	025° 35,36' E	485,0	± 089	± 0,13	270,0	0,0	1015,5	b/c	091 / 12	19,0	18,7	400			Fieren 0,5 m/s - 1,5 m/s
		18:14	Boko	35° 25,96' N	025° 35,38' E	485,0	± 088	± 0,14	270,0	0,0	1015,5	b/c	093 / 12	19,0	18,8		530		Hieven mit 0,5 m/s - 1,5 m/s
		18:21	Hieven	35° 25,96' N	025° 35,38' E	486,0	± 083	± 0,15	22,2	0,0	1015,5	b/c	096 / 12	19,1	18,5				Boko @ 517 m
		18:31	HF (Heat Flow) a/D	35° 25,98' N	025° 35,39' E	488,0	± 035	± 0,16	180,0	0,0	1015,5	b/c	106 / 12	19,2	18,6	0			
		18:31	Ende Station	35° 26,02' N	025° 35,39' E	488,0	± 028	± 0,17	81,8	0,1	1015,5	b/c	106 / 12	19,1	18,5				
447	11.05.2006	18:40	Schiff @ Station	35° 26,04' N	025° 35,56' E	480,0	± 099	± 3,2	270,0	0,0	1015,5	b/c	106 / 12	19,1	18,6				Seismic survey
		18:40	Katamaran z/W	35° 26,04' N	025° 35,56' E	480,0	± 099	± 3,2	102,1	0,3	1015,5	b/c	106 / 12	19,1	18,6				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		18:45	Streamer z/W	35° 25,97' N	025° 35,96' E	484,0	± 101	± 3,7	100,7	0,2	1015,5	b/c	110 / 12	19,1	18,6				
		18:48	Airgun z/W	35° 25,93' N	025° 36,22' E	483,0	± 101	± 3,7	100,9	0,3	1015,5	b/c	112 / 13	19,1	18,6				
		18:52	Beginn Profil	35° 25,88' N	025° 36,54' E	480,0	± 100	± 4,0	99,6	8,2	1015,5	b/c	112 / 13	19,1	18,6				
		20:54	Ende Profil	35° 24,50' N	025° 46,50' E	249,0	± 099	± 4,0	270,0	0,0	1015,5	b/c	175 / 10	19,3	18,2				
448	11.05.2006	20:54	Beginn Profil	35° 24,50' N	025° 46,50' E	249,0	± 001	± 3,8	1,4	13,5	1015,5	b/c	175 / 10	19,3	18,2				
		00:13	Ende Profil	35° 38,00' N	025° 46,90' E	383,0	± 001	± 4,0	270,0	0,0	1014,9	bc	116 / 03	19,0	18,5				
449	12.05.2006	00:13	Beginn Profil	35° 38,00' N	025° 46,90' E	383,0	± 090	± 3,9	114,2	3,6	1014,9	bc	116 / 03	19,0	18,5				
		01:13	Ende Profil	35° 36,51' N	025° 50,98' E	483,0	± 181	± 4,0	270,0	0,0	1014,8	b	270 / 03	19,2	18,3				
450	12.05.2006	01:13	Beginn Profil	35° 36,51' N	025° 50,98' E	483,0	± 181	± 4,0	180,9	15,0	1014,8	b	270 / 03	19,2	18,3				
		05:04	Ende Profil	35° 21,50' N	025° 50,70' E	250,0	± 181	± 4,0	270,0	0,0	1016,9	c	215 / 21	20,3	18,2				
451	12.05.2006	05:04	Beginn Profil	35° 21,50' N	025° 50,70' E	250,0	± 136	± 4,0	135,8	8,0	1016,9	c	215 / 21	20,3	18,2				
		06:54	Ende Profil	35° 15,80' N	025° 57,50' E	295,0	± 136	± 4,1	270,0	0,0	1018,2	c/b	295 / 17	21,6	18,2				
452	12.05.2006	06:54	Beginn Profil	35° 15,80' N	025° 57,50' E	295,0	± 040	± 3,8	39,9	5,5	1018,2	c/b	295 / 17	21,6	18,2				
		08:07	Ende Profil	35° 20,00' N	026° 01,80' E	448,0	± 040	± 4,0	270,0	0,0	1018,1	c	051 / 11	20,9	18,4				
453	12.05.2006	08:07	Beginn Profil	35° 20,00' N	026° 01,80' E	448,0	± 312	± 3,2	312,4	12,6	1018,1	c	051 / 11	20,9	18,4				
		11:11	Ende Seismik-Profil	35° 28,53' N	025° 50,35' E	561,0	± 312	± 4,3	132,0	0,5	1015,6	o	115 / 25	20,3	18,3				
454	12.05.2006	11:11	Beginn Multibeam-Profil	35° 28,20' N	025° 50,80' E	561,0	± 251	± 4,1	260,3	2,7	1015,6	o	115 / 25	20,3	18,3				
		11:44	Ende Profil, MB	35° 27,74' N	025° 47,51' E	486,0	± 251	± 5,0	270,0	0,0	1015,6	o	118 / 20	21,5	18,0				
455	12.05.2006	11:44	Beginn Profil, MB	35° 27,74' N	025° 47,51' E	486,0	± 002	± 5,0	359,7	1,7	1015,6	o	118 / 20	21,5	18,0				
		12:04	Ende Profil, MB	35° 29,40' N	025° 47,50' E	593,0	± 002	± 5,0	270,0	0,0	1015,1	o	126 / 20	21,0	18,0				
456	12.05.2006	12:04	Beginn Profil, MB	35° 29,40' N	025° 47,50' E	593,0	± 076	± 5,0	75,6	8,8	1015,1	o	126 / 20	21,0	18,0				
		13:54	Ende Profil, MB	35° 31,60' N	025° 58,00' E	1148,0	± 076	± 4,9	270,0	0,0	1014,6	o/c	175 / 24	22,2	18,1				
457	12.05.2006	13:54	Beginn Seismik-Profil	35° 31,60' N	025° 58,00' E	1148,0	± 180	± 4,9	180,0	1,3	1014,6	o/c	175 / 24	22,2	18,1				
		14:14	Ende Profil	35° 30,30' N	025° 58,00' E	1057,0	± 180	± 4,2	270,0	0,0	1014,5	o/c	195 / 23	22,5	18,2				
458	12.05.2006	14:14	Anfang Profil	35° 30,30' N	025° 58,00' E	1057,0	± 257	± 4,2	257,3	4,1	1014,5	o/c	195 / 23	22,5	18,2				
		15:15	Ende Profil	35° 29,40' N	025° 53,10' E	748,0	± 257	± 4,1	270,0	0,0	1014,2	o/c	203 / 24	21,3	18,1				
459	12.05.2006	15:15	Anfang Profil	35° 29,40' N	025° 53,10' E	748,0	± 236	± 4,1	235,8	3,7	1014,2	o/c	203 / 24	21,3	18,1				
		16:10	Ende Profil	35° 27,30' N	025° 49,30' E	496,0	± 236	± 4,2	270,0	0,0	1014,1	o/c	293 / 20	21,6	18,0				
460	12.05.2006	16:10	Anfang Profil	35° 27,30' N	025° 49,30' E	496,0	± 330	± 4,3	330,2	3,1	1014,1	o/c	293 / 20	21,6	18,0				
		16:52	Ende Profil	35° 30,00' N	025° 47,40' E	651,0	± 330	± 4,2	270,0	0,0	1014,6	o/c	257 / 17	21,2	18,0				
461	12.05.2006	16:52	Anfang Profil	35° 30,00' N	025° 47,40' E	651,0	± 065	± 4,2	60,0	3,4	1014,6	o/c	257 / 17	21,2	18,0				
		17:33	Ende Profil	35° 31,70' N	025° 51,02' E	753,0	± 065	± 4,2	270,0	0,0	1014,9	o/c	243 / 21	19,5	17,8				
462	12.05.2006	17:33	Anfang Profil	35° 31,70' N	025° 51,02' E	753,0	± 117	± 4,5	117,1	11,4	1014,9	o/c	243 / 21	19,5	17,8				
		20:09	Ende Profil	35° 26,50' N	026° 03,50' E	881,0	± 117	± 4,2	270,0	0,0	1016,6	b	271 / 26	17,8	17,9				
463	12.05.2006	20:09	Anfang Profil	35° 26,50' N	026° 03,50' E	881,0	± 092	± 4,2	92,2	5,2	1016,6	b	271 / 26	17,8	17,9				
		21:20	Ende Profil	35° 26,30' N	026° 09,92' E	808,0	± 092	± 4,2	270,0	0,0	1016,9	b	280 / 26	17,5	17,8				
464	12.05.2006	21:20	Anfang Profil	35° 26,30' N	026° 09,92' E	808,0	± 005	± 4,2	4,9	9,7	1016,9	b	280 / 26	17,5	17,8				
		23:29	Ende Profil	35° 35,95' N	026° 10,93' E	2226,0	± 005	± 4,5	270,0	0,0	1017,5	b	029 / 13	17,7	17,9				
465	12.05.2006	23:29	Anfang Profil	35° 35,95' N	026° 10,93' E	2226,0	± 316	± 4,2	316,0	3,5	1017,5	b	029 / 13	17,7	17,9				
	13.05.2006	00:17	Ende Profil	35° 38,50' N	026° 07,90' E	2235,0	± 316	± 4,5	270,0	0,0	1017,6	b	033 / 13	17,9	17,9				
466	13.05.2006	00:17	Anfang Profil	35° 38,50' N	026° 07,90' E	2235,0	± 202	± 4,2	202,4	9,5	1017,6	b	033 / 13	17,9	17,9				
		02:23	Ende Profil	35° 29,74' N	026° 03,47' E	887,0	± 202	± 4,2	270,0	0,0	1018,2	b	340 / 11	17,4	17,6				
467	13.05.2006	02:23	Anfang Profil	35° 29,74' N	026° 03,47' E	887,0	± 217	± 4,2	216,7	14,1	1018,2	b	340 / 11	17,4	17,6				
		05:34	Ende Profil	35° 18,43' N	025° 53,14' E	331,0	± 217	± 4,5	218,2	0,4	1020,0	b/c	309 / 11	17,6	17,6				
		05:41	Katamaran an Deck	35° 18,14' N	025° 52,86' E	346,0	± 220	± 2,5	215,5	0,1	1020,0	b/c	313 / 13	17,8	17,7				
		05:44	Airgun an Deck	35° 18,06' N	025° 52,79' E	348,0	± 218	± 2,4	212,7	0,2	1020,1	b/c	316 / 13	17,5	17,7				
		05:48	Streamer an Deck	35° 17,92' N	025° 52,68' E	353,0	± 215	± 2,3	270,0	0,0	1020,0	b/c	316 / 13	17,6	17,8				
		05:48	Ende der Station	35° 17,92' N	025° 52,68' E	353,0	± 215	± 2,3	304,6	13,8	1020,0	b/c	316 / 13	17,6	17,8				
468	13.05.2006	07:42	Schiff @ Station	35° 25,76' N	025° 38,74' E	492,0	± 330	± 0,0	270,0	0,0	1021,3	b/c	329 / 13	17,3	18,3			W 3	Heat Flow #: H0606P01

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		07:43	HF (Heat Flow) z/W	35° 25,76' N	025° 38,74' E	492,0	± 331	± 0,0	270,0	0,0	1021,0	b/c	324 / 13	17,1	18,3	0			Fieren 0,5 m/s - 1,5 m/s
		08:07	Boko/Hieven	35° 25,76' N	025° 38,73' E	493,0	± 333	± 0,0	270,0	0,0	1021,0	b/c	317 / 13	17,3	18,3	537	537		Hieven mit 0,5 m/s - 1,5 m/s
		08:17	HF (Heat Flow) a/D	35° 25,76' N	025° 38,72' E	493,0	± 334	± 0,0	270,0	0,0	1021,1	b/c	317 / 13	17,4	18,3				Boko @ 523 m @ 07:59
		08:21	Ende Station	35° 25,76' N	025° 38,73' E	192,0	± 326	± 0,0	75,3	0,5	1021,3	b/c	320 / 13	17,2	18,3				
469	13.05.2006	08:40	Schiff @ Station	35° 25,89' N	025° 39,34' E	476,0	± 316	± 0,0	270,0	0,0	1021,3	b/c	320 / 13	17,2	18,3			W 3	Heat Flow #: H0606P02
		08:41	HF (Heat Flow) z/W	35° 25,89' N	025° 39,34' E	476,0	± 316	± 0,0	270,0	0,0	1021,3	b/c	320 / 13	17,3	18,3	0			Fieren 0,5 m/s - 1,5 m/s
		09:01	Boko/Hieven	35° 25,89' N	025° 39,32' E	476,0	± 323	± 0,0	180,0	0,0	1021,3	b/c	320 / 14	17,3	18,4	521	521		Hieven mit 0,5 m/s - 1,5 m/s
		09:11	HF (Heat Flow) a/D	35° 25,94' N	025° 39,32' E	475,0	± 350	± 0,0	270,0	0,0	1021,3	c	317 / 13	17,5	18,3				Boko @ 507 m @ 08:54
		09:12	Ende Station	35° 25,94' N	025° 39,32' E	475,0	± 350	± 0,0	77,7	0,7	1021,3	c	317 / 13	17,5	18,3				
470	13.05.2006	09:30	Schiff @ Station	35° 26,08' N	025° 40,11' E	487,0	± 310	± 0,0	270,0	0,0	1021,3	oc	317 / 13	17,4	18,5			W 3	Heat Flow #: H0606P03
		09:31	HF (Heat Flow) z/W	35° 26,08' N	025° 40,11' E	487,0	± 310	± 0,0	301,5	0,0	1021,3	oc	317 / 13	17,4	18,5	0			Fieren 0,5 m/s - 1,5 m/s
		09:46	Boko/Hieven	35° 26,09' N	025° 40,09' E	487,0	± 320	± 0,0	54,4	0,1	1021,2	oc	335 / 13	17,5	18,3	531	531		Hieven mit 0,5 m/s - 1,5 m/s
		09:55	HF (Heat Flow) a/D	35° 26,16' N	025° 40,21' E	487,0	± 340	± 0,0	270,0	0,0	1021,2	oc	335 / 13	17,5	18,3				Boko @ 518 m @ 09:39
		09:56	Ende Station	35° 26,16' N	025° 40,21' E	487,0	± 340	± 0,0	84,3	0,3	1021,2	oc	335 / 13	17,5	18,3				
471	13.05.2006	10:13	Schiff @ Station	35° 26,19' N	025° 40,58' E	460,0	± 300	± 0,0	270,0	0,0	1021,0	c	330 / 12	17,3	18,4			W 3	Heat Flow #: H0606P04
		10:14	HF (Heat Flow) z/W	35° 26,19' N	025° 40,58' E	460,0	± 300	± 0,0	281,6	0,0	1021,0	c	330 / 12	17,3	18,4	0			Fieren 0,5 m/s - 1,5 m/s
		10:28	Boko/Hieven	35° 26,20' N	025° 40,52' E	465,0	± 320	± 0,0	97,8	0,1	1021,0	c	330 / 12	17,3	18,4	505	505		Hieven mit 0,5 m/s - 1,5 m/s
		10:36	HF (Heat Flow) a/D	35° 26,19' N	025° 40,61' E	457,0	± 050	± 0,0	270,0	0,0	1021,0	b	330 / 12	17,5	18,5				Boko @ 493 m @ 10:21
		10:37	Ende Station	35° 26,19' N	025° 40,61' E	457,0	± 050	± 0,0	70,7	0,4	1021,0	b	330 / 12	17,5	18,5				
472	13.05.2006	10:49	Schiff @ Station	35° 26,33' N	025° 41,10' E	434,0	± 300	± 0,0	270,0	0,0	1020,4	b	328 / 13	17,6	18,5			W 3	Heat Flow #: H0606P05
		10:50	HF (Heat Flow) z/W	35° 26,33' N	025° 41,10' E	434,0	± 300	± 0,0	270,0	0,0	1020,4	b	328 / 13	17,6	18,5				Fieren 0,5 m/s - 1,5 m/s
		11:04	Boko/Hieven	35° 26,33' N	025° 41,07' E	437,0	± 330	± 0,0	50,7	0,0	1020,6	b	304 / 14	17,5	18,4	476	476		Hieven mit 0,5 m/s - 1,5 m/s
		11:15	HF (Heat Flow) a/D	35° 26,35' N	025° 41,10' E	437,0	± 330	± 0,0	270,0	0,0	1020,6	b	304 / 14	17,5	18,4				Boko @ 453 m @ 10:57
		11:16	Ende Station	35° 26,35' N	025° 41,10' E	437,0	± 330	± 0,0	14,3	3,7	1020,6	b	304 / 14	17,5	18,4				
473	13.05.2006	11:55	Schiff @ Station	35° 29,96' N	025° 42,23' E	698,0	± 315	± 0,0	270,0	0,0	1020,4	b	315 / 16	18,1	18,5			W 3	Heat Flow #: H0607P01
		11:56	HF (Heat Flow) z/W	35° 29,96' N	025° 42,23' E	698,0	± 315	± 0,0	15,2	0,0	1020,4	b	315 / 16	18,1	18,5				Fieren 0,5 m/s - 1,5 m/s
		12:18	Boko/Hieven	35° 29,99' N	025° 42,24' E	699,0	± 325	± 0,0	274,7	0,1	1020,3	b	300 / 14	18,0	18,3	756	756		Hieven mit 0,5 m/s - 1,5 m/s
		12:34	HF (Heat Flow) a/D	35° 30,00' N	025° 42,09' E	698,0	± 300	± 0,0	270,0	0,0	1020,2	b	296 / 13	17,8	18,6				Boko @ 745 m @ 12:11
		12:36	Ende Station	35° 30,00' N	025° 42,09' E	698,0	± 300	± 0,0	260,0	0,2	1020,2	b	296 / 13	17,8	18,6				
474	13.05.2006	12:48	Schiff @ Station	35° 29,96' N	025° 41,81' E	695,0	± 320	± 0,0	270,0	0,0	1020,0	b	279 / 12	17,7	18,5			W 3	Heat Flow #: H0607P02
		12:49	HF (Heat Flow) z/W	35° 29,96' N	025° 41,81' E	695,0	± 320	± 0,0	270,0	0,0	1020,0	b	279 / 12	17,7	18,5				Fieren 0,5 m/s - 1,5 m/s
		13:07	Boko/Hieven	35° 29,96' N	025° 41,83' E	696,0	± 324	± 0,0	112,3	0,1	1019,9	b	279 / 12	17,8	18,6	753	753		Hieven mit 0,5 m/s - 1,5 m/s
		13:21	HF (Heat Flow) a/D	35° 29,94' N	025° 41,89' E	696,0	± 325	± 0,0	270,0	0,0	1019,8	b	292 / 12	17,9	18,5				Boko @ 742 m @ 12:59
		13:24	Ende Station	35° 29,94' N	025° 41,91' E	696,0	± 314	± 0,0	271,0	0,6	1019,8	b	292 / 11	17,9	18,5				
475	13.05.2006	13:41	Schiff @ Station	35° 29,95' N	025° 41,20' E	676,0	± 310	± 0,0	270,0	0,0	1019,7	b	306 / 14	17,9	18,6			W 3	Heat Flow #: H0607P03
		13:42	HF (Heat Flow) z/W	35° 29,95' N	025° 41,20' E	676,0	± 310	± 0,0	344,8	0,0	1019,7	b	306 / 14	17,9	18,6				Fieren 0,5 m/s - 1,5 m/s
		14:06	Boko/Hieven	35° 29,98' N	025° 41,19' E	677,0	± 334	± 0,0	103,8	0,0	1019,8	b	300 / 14	18,0	18,6	734	734		Hieven mit 0,5 m/s - 1,5 m/s
		14:20	HF (Heat Flow) a/D	35° 29,97' N	025° 41,24' E	679,0	± 330	± 0,0	132,7	0,0	1019,8	b	307 / 14	17,9	18,6				Boko @ 720 m @ 13:59
		14:24	Ende Station	35° 29,94' N	025° 41,28' E	680,0	± 330	± 0,0	265,5	0,5	1019,9	b	315 / 14	18,0	18,6				
476	13.05.2006	14:40	Schiff @ Station	35° 29,90' N	025° 40,65' E	664,0	± 315	± 0,0	270,0	0,0	1019,8	b	318 / 12	18,0	18,6			W 3	Heat Flow #: H0607P04
		14:41	HF (Heat Flow) z/W	35° 29,90' N	025° 40,65' E	664,0	± 315	± 0,0	287,1	0,0	1019,8	b	318 / 12	18,0	18,6				Fieren 0,5 m/s - 1,5 m/s
		15:01	Boko/Hieven	35° 29,91' N	025° 40,61' E	665,0	± 335	± 0,0	270,0	0,0	1019,8	b	319 / 12	18,0	18,6	719	719		Hieven mit 0,5 m/s - 1,5 m/s
		15:15	HF (Heat Flow) a/D	35° 29,91' N	025° 40,66' E	662,0	± 325	± 0,0	270,0	0,0	1019,7	b	306 / 13	17,8	18,5				Boko @ 707 m @ 14:52
		15:17	Ende Station	35° 29,91' N	025° 40,66' E	663,0	± 325	± 0,0	267,2	0,8	1019,7	b	308 / 13	18,0	18,7				
477	13.05.2006	15:40	Schiff @ Station	35° 29,87' N	025° 39,67' E	651,0	± 327	± 0,0	270,0	0,0	1019,6	b	313 / 14	18,2	18,5			W 3	Heat Flow #: H0607P05
		15:43	HF (Heat Flow) z/W	35° 29,87' N	025° 39,66' E	651,0	± 334	± 0,0	103,8	0,0	1019,6	b	312 / 13	18,2	18,6				Fieren 0,5 m/s - 1,5 m/s
		16:07	Boko/Hieven	35° 29,86' N	025° 39,71' E	650,0	± 331	± 0,0	219,2	0,0	1019,5	b	316 / 15	17,9	18,4	705	705		Hieven mit 0,5 m/s - 1,5 m/s
		16:22	HF (Heat Flow) a/D	35° 29,85' N	025° 39,70' E	650,0	± 331	± 0,0	270,0	0,0	1019,6	b	326 / 15	17,9	18,5				Boko @ 693 m @ 16:00
		16:22	Ende Station	35° 29,85' N	025° 39,70' E	650,0	± 331	± 0,0	85,4	1,2	1019,6	b	326 / 15	17,9	18,5				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
478	13.05.2006	16:51	Schiff @ Station	35° 29,95' N	025° 41,22' E	676,0	± 325	± 0,0	180,0	0,0	1019,6	b	319 / 15	18,0	18,6			W 3	Gravity Core #: GeoB10433-1
		16:53	SL 3 m z/W	35° 29,93' N	025° 41,22' E	676,0	± 330	± 0,0	301,6	0,0	1019,6	b	319 / 15	18,0	18,6				Fieren 0,5 m/s - 1,5 m/s
		17:08	Boko/Hieven	35° 29,94' N	025° 41,20' E	676,0	± 328	± 0,0	270,0	0,0	1019,5	b/c	317 / 17	17,7	18,6	735	735		Hieven mit 0,5 m/s - 1,5 m/s
		17:24	SL 3 m a/D	35° 29,94' N	025° 41,19' E	676,0	± 318	± 0,0	270,0	0,0	1019,6	b/c	311 / 17	17,4	18,5				Boko @ 727 m @ 17:08
		17:25	Ende Station	35° 29,94' N	025° 41,19' E	676,0	± 318	± 0,0	88,6	0,8	1019,6	b/c	311 / 17	17,4	18,5				
479	13.05.2006	18:08	Schiff @ Station	35° 29,96' N	025° 42,23' E	698,0	± 326	± 0,0	270,0	0,0	1019,6	b/c	309 / 15	17,4	18,4			W 2	CPT #: GeoB10434
		18:08	CPT z/W	35° 29,96' N	025° 42,23' E	698,0	± 326	± 0,0	320,9	0,0	1019,6	b/c	309 / 15	17,4	18,4				Fieren 0,5 m/s - 1,5 m/s
		18:41	Boko/Hieven	35° 29,98' N	025° 42,21' E	699,0	± 334	± 0,0	270,0	0,0	1019,8	b/c	323 / 16	17,4	18,4	719	719		Hieven mit 0,5 m/s - 1,5 m/s
		18:55	CPT @ Deck	35° 29,98' N	025° 42,20' E	698,0	± 328	± 0,0	270,0	0,0	1019,8	b/c	306 / 18	17,6	18,5				Boko @ 18:31
		18:56	Ende der Station	35° 29,98' N	025° 42,20' E	698,0	± 328	± 0,0	264,7	0,3	1019,8	b/c	306 / 18	17,6	18,5				
480	13.05.2006	19:15	Schiff @ Station	35° 29,95' N	025° 41,80' E	696,0	± 325	± 0,0	270,0	0,0	1020,0	b/c	295 / 18	17,0	18,2			W 2	CPT #: GeoB10435
		19:16	CPT z/W	35° 29,95' N	025° 41,80' E	696,0	± 325	± 0,0	270,0	0,0	1020,0	b/c	295 / 18	17,0	18,2				Fieren 0,5 m/s - 1,5 m/s
		19:38	Boko/Hieven	35° 29,95' N	025° 41,80' E	696,0	± 325	± 0,0	270,0	0,0	1020,0	b/c	297 / 18	17,3	18,4	719	719		Hieven mit 0,5 m/s - 1,5 m/s
		19:48	CPT @ Deck	35° 29,95' N	025° 41,81' E	696,0	± 327	± 0,0	270,0	0,0	1020,0	b/c	302 / 18	17,1	18,3				Boko @ 19:27
		19:48	Ende der Station	35° 29,95' N	025° 41,81' E	696,0	± 327	± 0,0	267,7	0,5	1020,0	b/c	302 / 18	17,1	18,3				
481	13.05.2006	20:10	Schiff @ Station	35° 29,93' N	025° 41,20' E	677,0	± 323	± 0,0	270,0	0,0	1019,9	b/c	306 / 17	17,2	18,3			W 2	CPT #: GeoB10436
		20:11	CPT z/W	35° 29,93' N	025° 41,20' E	677,0	± 323	± 0,0	180,0	0,0	1019,9	b/c	306 / 17	17,2	18,3				Fieren 0,5 m/s - 1,5 m/s
		20:33	Boko/Hieven	35° 29,94' N	025° 41,20' E	676,0	± 320	± 0,0	238,4	0,0	1019,8	b/c	297 / 17	16,9	18,3	701	701		Hieven mit 0,5 m/s - 1,5 m/s
		20:44	CPT @ Deck	35° 29,93' N	025° 41,18' E	676,0	± 305	± 0,0	270,0	0,0	1019,7	b/c	296 / 17	17,3	18,3				Boko @ 20:22
		20:44	Ende der Station	35° 29,93' N	025° 41,18' E	675,0	± 305	± 0,0	266,2	0,5	1019,7	b/c	296 / 17	17,3	18,3				
482	13.05.2006	21:01	Schiff @ Station	35° 29,90' N	025° 40,62' E	664,0	± 325	± 0,0	270,0	0,0	1019,7	b	297 / 15	17,1	18,5			W 2	CPT #: GeoB10437
		21:02	CPT z/W	35° 29,90' N	025° 40,62' E	664,0	± 325	± 0,0	11,5	0,0	1019,7	b	297 / 15	17,1	18,5				Fieren 0,5 m/s - 1,5 m/s
		21:25	Boko/Hieven	35° 29,94' N	025° 40,63' E	665,0	± 330	± 0,0	184,3	0,5	1019,6	b	289 / 16	17,1	18,5	689	689		Hieven mit 0,5 m/s - 1,5 m/s
		21:36	CPT @ Deck	35° 29,40' N	025° 40,58' E	667,0	± 320	± 0,0	270,0	0,0	1019,5	b	291 / 15	17,0	18,4				Boko @ 21:15
		21:38	Ende der Station	35° 29,40' N	025° 40,58' E	667,0	± 320	± 0,0	187,6	5,0	1019,5	b	291 / 15	17,0	18,4				
483	13.05.2006	22:27	Schiff @ Station	35° 24,40' N	025° 39,76' E	340,0	± 340	± 0,0	252,9	0,0	1019,1	b	269 / 16	16,9	18,3			W 2	CPT #: GeoB10438
		23:33	CPT z/W	35° 24,39' N	025° 39,72' E	341,0	± 300	± 0,0	320,8	0,0	1018,6	b	285 / 17	17,2	18,5				Fieren 0,5 m/s - 1,5 m/s
		23:51	Boko/Hieven	35° 24,41' N	025° 39,70' E	345,0	± 300	± 0,0	180,0	0,0	1018,5	b	286 / 18	17,1	18,3	360	360		Hieven mit 0,5 m/s - 1,5 m/s
		23:57	CPT @ Deck	35° 24,44' N	025° 39,70' E	354,0	± 330	± 0,0	270,0	0,0	1018,5	b	286 / 18	17,1	18,3				Boko @ 23:40
		23:59	Ende der Station	35° 24,44' N	025° 39,70' E	354,0	± 330	± 0,0	1,9	0,3	1018,5	b	286 / 18	17,1	18,3				
484	14.05.2006	00:04	Schiff @ Station	35° 24,69' N	025° 39,71' E	399,0	± 300	± 0,0	270,0	0,0	1018,4	b	276 / 18	17,1	18,3			W 2	CPT #: GeoB10439
		00:05	CPT z/W	35° 24,69' N	025° 39,71' E	399,0	± 300	± 0,0	287,1	0,0	1018,4	b	276 / 18	17,1	18,3				Fieren 0,5 m/s - 1,5 m/s
		00:24	Boko/Hieven	35° 24,70' N	025° 39,67' E	405,0	± 300	± 0,0	180,0	0,0	1018,4	b	285 / 18	17,0	18,4	422	422		Hieven mit 0,5 m/s - 1,5 m/s
		00:30	CPT @ Deck	35° 24,72' N	025° 39,67' E	410,0	± 330	± 0,0	270,0	0,0	1018,2	b	289 / 18	17,0	18,4				Boko @ 00:13
		00:31	Ende der Station	35° 24,72' N	025° 39,67' E	410,0	± 330	± 0,0	180,0	0,4	1018,2	b	289 / 18	17,0	18,4				
485	14.05.2006	00:42	Schiff @ Station	35° 25,10' N	025° 39,67' E	422,0	± 305	± 0,0	270,0	0,0	1018,1	b	288 / 19	17,0	18,2			W 2	CPT #: GeoB10440
		00:43	CPT z/W	35° 25,10' N	025° 39,67' E	422,0	± 305	± 0,0	301,5	0,0	1018,1	b	288 / 19	17,0	18,2				Fieren 0,5 m/s - 1,5 m/s
		01:00	Boko/Hieven	35° 25,12' N	025° 39,63' E	427,0	± 305	± 0,0	157,8	0,0	1018,1	b	287 / 19	16,8	18,3	445	445		Hieven mit 0,5 m/s - 1,5 m/s
		01:08	CPT @ Deck	35° 25,10' N	025° 39,64' E	425,0	± 300	± 0,0	270,0	0,0	1018,1	b	290 / 19	16,9	18,4				Boko @ 00:52
		01:09	Ende der Station	35° 25,10' N	025° 39,65' E	424,0	± 300	± 0,0	358,4	1,2	1018,1	b	290 / 19	16,9	18,3				
486	14.05.2006	01:39	Schiff @ Station	35° 26,29' N	025° 39,61' E	501,0	± 300	± 0,0	301,5	0,0	1017,9	b	295 / 20	16,7	18,2			W 2	CPT #: GeoB10441
		01:40	CPT z/W	35° 26,30' N	025° 39,59' E	500,0	± 300	± 0,0	270,0	0,0	1017,9	b	295 / 20	16,7	18,2				Fieren 0,5 m/s - 1,5 m/s
		02:01	Boko/Hieven	35° 26,30' N	025° 39,59' E	501,0	± 310	± 0,0	72,9	0,0	1018,0	b	294 / 21	16,7	18,2	521	521		Hieven mit 0,5 m/s - 1,5 m/s
		02:10	CPT @ Deck	35° 26,31' N	025° 39,63' E	504,0	± 300	± 0,0	270,0	0,0	1017,8	b	299 / 21	16,8	18,1				Boko @ 01:51
		02:12	Ende der Station	35° 26,31' N	025° 39,61' E	503,0	± 300	± 0,0	354,8	0,2	1017,8	b	290 / 20	16,7	18,2				
487	14.05.2006	02:23	Schiff @ Station	35° 26,49' N	025° 39,59' E	506,0	± 300	± 0,0	309,3	0,0	1017,8	b	300 / 21	16,7	18,1			W 2	CPT #: GeoB10442
		02:25	CPT z/W	35° 26,51' N	025° 39,56' E	508,0	± 310	± 0,0	22,2	0,0	1017,8	b	299 / 20	16,7	18,1				Fieren 0,5 m/s - 1,5 m/s
		02:44	Boko/Hieven	35° 26,53' N	025° 39,57' E	506,0	± 304	± 0,0	219,2	0,0	1017,9	b	298 / 21	16,8	18,1	528	528		Hieven mit 0,5 m/s - 1,5 m/s
		02:55	CPT @ Deck	35° 26,52' N	025° 39,56' E	511,0	± 305	± 0,0	270,0	0,0	1017,9	b	304 / 20	16,8	18,2				Boko @ 02:34

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		02:55	Ende der Station	35° 26,52' N	025° 39,56' E	511,0	± 305	± 0,0	358,0	0,9	1017,9	b	304 / 20	16,8	18,2				
488	14.05.2006	03:22	Schiff @ Station	35° 27,44' N	025° 39,52' E	546,0	± 300	± 0,0	270,0	0,0	1018,0	b	300 / 20	16,2	18,1			W 2	CPT #: GeoB10443
		03:23	CPT z/W	35° 27,44' N	025° 39,51' E	546,0	± 300	± 0,0	320,8	0,0	1018,0	b	300 / 19	16,9	18,1				Fieren 0,5 m/s - 1,5 m/s
		03:44	Boko/Hieven	35° 27,45' N	025° 39,50' E	545,0	± 309	± 0,0	39,2	0,0	1018,1	b	299 / 19	16,9	18,0	566	566		Hieven mit 0,5 m/s - 1,5 m/s
		03:53	CPT @ Deck	35° 27,47' N	025° 39,52' E	545,0	± 300	± 0,0	180,0	0,0	1018,1	b	294 / 19	17,0	18,0				Boko @ 03:33
		03:55	Ende der Station	35° 27,46' N	025° 39,52' E	545,0	± 300	± 0,0	358,4	0,3	1018,1	b	292 / 13	17,0	18,0				
489	14.05.2006	04:07	Schiff @ Station	35° 27,76' N	025° 39,51' E	592,0	± 323	± 0,0	39,2	0,0	1018,1	b	291 / 19	16,8	17,9			W 2	CPT #: GeoB10444
		04:09	CPT z/W	35° 27,78' N	025° 39,53' E	592,0	± 297	± 0,0	180,0	0,0	1018,1	b	290 / 18	16,8	17,9				Fieren 0,5 m/s - 1,5 m/s
		04:03	Boko/Hieven	35° 27,76' N	025° 39,53' E	595,0	± 297	± 0,0	270,0	0,0	1018,3	b	291 / 20	16,9	18,1	612	612		Hieven mit 0,5 m/s - 1,5 m/s
		04:40	CPT @ Deck	35° 27,76' N	025° 39,51' E	591,0	± 297	± 0,0	180,0	0,0	1018,2	b	287 / 21	17,5	18,0				Boko @ 04:20
		04:46	Ende der Station	35° 27,77' N	025° 39,51' E	591,0	± 298	± 0,0	3,6	0,3	1018,2	b	287 / 21	17,1	18,1				
490	14.05.2006	04:58	Schiff @ Station	35° 28,03' N	025° 39,53' E	598,0	± 384	± 0,0	270,0	0,0	1018,2	b	298 / 21	17,1	18,0			W 2	CPT #: GeoB10445
		04:59	CPT z/W	35° 28,03' N	025° 39,53' E	598,0	± 384	± 0,0	238,5	0,0	1018,2	b	298 / 21	17,1	18,0				Fieren 0,5 m/s - 1,5 m/s
		05:20	Boko/Hieven	35° 28,02' N	025° 39,51' E	598,0	± 398	± 0,0	270,0	0,0	1018,2	b	289 / 21	17,1	18,0	618	618		Hieven mit 0,5 m/s - 1,5 m/s
		05:29	CPT @ Deck	35° 28,02' N	025° 39,52' E	598,0	± 393	± 0,0	270,0	0,0	1018,2	b	287 / 21	17,0	18,1				Boko @ 05:10
		05:30	Ende der Station	35° 28,02' N	025° 39,52' E	598,0	± 393	± 0,0	358,1	1,2	1018,2	b	287 / 21	17,0	18,1				
491	14.05.2006	05:55	Schiff @ Station	35° 29,24' N	025° 39,47' E	633,0	± 306	± 0,0	270,0	0,0	1018,3	b	285 / 21	16,7	18,1			W 2	CPT #: GeoB10446
		05:56	CPT z/W	35° 29,24' N	025° 39,47' E	633,0	± 306	± 0,0	292,3	0,0	1018,3	b	285 / 21	16,7	18,1				Fieren 0,5 m/s - 1,5 m/s
		06:16	Boko/Hieven	35° 29,25' N	025° 39,44' E	635,0	± 300	± 0,0	58,4	0,0	1018,3	b	282 / 21	17,4	18,0	657	657		Hieven mit 0,5 m/s - 1,5 m/s
		06:25	CPT @ Deck	35° 29,26' N	025° 39,46' E	633,0	± 310	± 0,0	270,0	0,0	1018,4	b	286 / 21	17,2	18,0				Boko @ 06:07
		06:26	Ende der Station	35° 29,26' N	025° 39,46' E	633,0	± 310	± 0,0	357,2	0,3	1018,4	b	286 / 21	17,2	18,0				
492	14.05.2006	06:37	Schiff @ Station	35° 29,59' N	025° 39,44' E	635,0	± 3301	± 0,0	270,0	0,0	1018,4	b	294 / 20	17,3	18,1			W 2	CPT #: GeoB10447
		06:38	CPT z/W	35° 29,59' N	025° 39,43' E	634,0	± 308	± 0,0	320,8	0,0	1018,4	b/c	294 / 20	17,3	18,1				Fieren 0,5 m/s - 1,5 m/s
		07:01	Boko/Hieven	35° 29,60' N	025° 39,42' E	643,0	± 304	± 0,0	270,0	0,0	1018,5	b/c	294 / 20	17,1	18,0	661	661		Hieven mit 0,5 m/s - 1,5 m/s
		07:09	CPT @ Deck	35° 29,60' N	025° 39,43' E	634,0	± 311	± 0,0	270,0	0,0	1018,7	b/c	281 / 20	17,3	17,9				Boko @ 06:49
		07:09	Ende der Station	35° 29,60' N	025° 39,43' E	634,0	± 311	± 0,0	358,7	1,0	1018,7	b/c	281 / 20	17,3	17,9				
493	14.05.2006	07:30	Schiff @ Station	35° 30,64' N	025° 39,40' E	665,0	± 282	± 0,0	270,0	0,0	1018,7	b/c	296 / 20	16,5	18,0			W 2	CPT #: GeoB10448
		07:30	CPT z/W	35° 30,64' N	025° 39,40' E	665,0	± 284	± 0,0	238,4	0,0	1018,7	b/c	296 / 20	16,5	18,2				Fieren 0,5 m/s - 1,5 m/s
		07:52	Boko/Hieven	35° 30,63' N	025° 39,38' E	665,0	± 307	± 0,0	270,0	0,0	1018,9	b/c	292 / 21	17,4	18,2	686	686		Hieven mit 0,5 m/s - 1,5 m/s
		08:02	CPT @ Deck	35° 30,63' N	025° 39,38' E	665,0	± 328	± 0,0	270,0	0,0	1019,2	b/c	299 / 21	17,4	17,9				Boko @ 07:42
		08:02	Ende der Station	35° 30,63' N	025° 39,38' E	665,0	± 328	± 0,0	357,7	0,4	1019,2	b/c	299 / 21	17,4	17,9				
494	14.05.2006	08:15	Schiff @ Station	35° 31,03' N	025° 39,36' E	667,0	± 300	± 0,0	270,0	0,0	1019,3	b/c	293 / 21	17,4	18,0			W 2	CPT #: GeoB10449
		08:17	CPT z/W	35° 31,03' N	025° 39,36' E	667,0	± 311	± 0,0	270,0	0,0	1019,3	b/c	293 / 21	17,4	18,0				Fieren 0,5 m/s - 1,5 m/s
		08:40	Boko/Hieven	35° 31,03' N	025° 39,37' E	667,0	± 319	± 0,0	39,1	0,0	1019,4	b/c	298 / 21	17,1	18,0	687	687		Hieven mit 0,5 m/s - 1,5 m/s
		08:53	CPT @ Deck	35° 31,04' N	025° 39,38' E	667,0	± 320	± 0,0	270,0	0,0	1019,3	b/c	295 / 20	17,4	18,0				Boko @ 08:40
		08:53	Ende der Station	35° 31,04' N	025° 39,38' E	667,0	± 320	± 0,0	353,4	0,2	1019,3	b/c	295 / 20	17,4	18,0				
495	14.05.2006	09:00	Schiff @ Station	35° 31,25' N	025° 39,35' E	658,0	± 286	± 0,0	270,0	0,0	1019,1	b/c	295 / 19	17,3	18,0			W 2	CPT #: GeoB10450
		09:01	CPT z/W	35° 31,25' N	025° 39,35' E	658,0	± 286	± 0,0	320,9	0,0	1019,1	b/c	295 / 19	17,3	18,0				Fieren 0,5 m/s - 1,5 m/s
		09:23	Boko/Hieven	35° 31,26' N	025° 39,34' E	656,0	± 305	± 0,0	337,9	0,0	1019,0	b/c	291 / 16	17,4	18,1	683	683		Hieven mit 0,5 m/s - 1,5 m/s
		09:34	CPT @ Deck	35° 31,30' N	025° 39,32' E	653,0	± 305	± 0,0	270,0	0,0	1019,0	b/c	291 / 16	17,4	18,1				Boko @ 09:13
		09:38	Ende der Station	35° 31,30' N	025° 39,32' E	653,0	± 305	± 0,0	270,0	0,0	1019,0	b/c	291 / 16	17,4	18,1				
496	14.05.2006	09:38	Beginn MB - Profil	35° 31,30' N	025° 39,32' E	653,0	± 092	± 7,0	86,2	3,0	1019,0	b/c	291 / 16	17,4	18,1				Multibeam - Kartierung
		10:06	Ende MB - Profil	35° 31,50' N	025° 43,00' E	728,0	± 092	± 7,0	270,0	0,0	1018,7	b	285 / 18	17,3	18,2				(#: GeoB10452-1)
497	14.05.2006	10:06	Beginn MB - Profil	35° 31,50' N	025° 43,00' E	728,0	± 178	± 7,0	178,3	6,3	1018,7	b	285 / 18	17,3	18,2				
		10:58	Ende MB - Profil	35° 25,25' N	025° 43,23' E	267,0	± 178	± 7,0	270,0	0,0	1018,2	b	292 / 19	17,6	18,2				
498	14.05.2006	10:58	Beginn MB - Profil	35° 25,25' N	025° 43,23' E	267,0	± 098	± 7,0	98,3	0,9	1018,2	b	292 / 19	17,6	18,2				
		11:05	Ende MB - Profil	35° 25,12' N	025° 44,32' E	264,0	± 098	± 7,0	270,0	0,0	1018,2	b	292 / 19	17,6	18,2				
499	14.05.2006	11:05	Beginn MB - Profil	35° 25,12' N	025° 44,32' E	264,0	± 353	± 7,0	353,4	6,4	1018,2	b	292 / 19	17,6	18,2				
		11:59	Ende MB - Profil	35° 31,50' N	025° 43,42' E	732,0	± 353	± 7,0	270,0	0,0	1017,7	b	279 / 18	17,7	18,2				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
500	14.05.2006	11:59	Beginn MB - Profil	35° 31,50' N	025° 43,42' E	732,0	± 060	± 7,0	59,5	2,0	1017,7	b	279 / 18	17,7	18,2				
		12:16	Ende MB - Profil	35° 32,50' N	025° 45,51' E	747,0	± 060	± 7,0	270,0	0,0	1017,7	b	274 / 18	17,7	18,2				
501	14.05.2006	12:16	Beginn MB - Profil	35° 32,50' N	025° 45,51' E	747,0	± 177	± 7,0	177,2	5,5	1017,7	b	274 / 18	17,7	18,2				
		13:04	Ende MB - Profil	35° 27,00' N	025° 45,84' E	426,0	± 177	± 7,0	270,0	0,0	1017,4	b	295 / 22	18,0	18,0				
502	14.05.2006	13:04	Beginn MB - Profil	35° 27,00' N	025° 45,84' E	426,0	± 090	± 7,0	270,0	1,2	1017,4	b	295 / 22	18,0	18,0				
		13:14	Ende MB - Profil	35° 27,00' N	025° 47,30' E	426,0	± 090	± 7,0	270,0	0,0	1017,3	b	290 / 22	18,1	18,0				
503	14.05.2006	13:14	Beginn MB - Profil	35° 27,00' N	025° 47,30' E	426,0	± 104	± 7,0	103,8	2,6	1017,3	b	290 / 22	18,1	18,0				
		13:37	Ende MB - Profil	35° 26,38' N	025° 50,40' E	461,0	± 104	± 7,0	270,0	0,0	1017,1	b	293 / 22	17,9	18,0				
504	14.05.2006	13:37	Beginn MB - Profil	35° 26,38' N	025° 50,40' E	461,0	± 090	± 7,0	270,0	0,8	1017,1	b	293 / 22	17,9	18,0				
		13:44	Ende MB - Profil	35° 26,38' N	025° 51,40' E	497,0	± 090	± 7,0	270,0	0,0	1016,9	b	285 / 22	18,0	18,0				
505	14.05.2006	13:44	Beginn MB - Profil	35° 26,38' N	025° 51,40' E	497,0	± 353	± 7,0	353,7	1,9	1016,9	b	285 / 22	18,0	18,0				
		14:05	Ende MB - Profil	35° 28,29' N	025° 51,14' E	602,0	± 294	± 7,0	270,0	0,0	1016,9	b	292 / 22	18,1	18,2				
506	14.05.2006	14:05	Schiff @ Station	35° 28,29' N	025° 51,14' E	602,0	± 294	± 0,0	270,0	0,0	1016,9	b	292 / 22	18,1	18,2			W 3	Gravity Core #: GeoB10452-1
		14:07	SL 3 m z/W	35° 28,29' N	025° 51,13' E	595,0	± 294	± 0,0	320,8	0,0	1016,9	b	292 / 22	18,0	18,2				Fieren 0,5 m/s - 1,5 m/s
		14:20	Boko/Hieven	35° 28,30' N	025° 51,12' E	592,0	± 295	± 0,0	270,0	0,1	1016,8	b	286 / 22	18,0	18,2	689	689		Hieven mit 0,5 m/s - 1,5 m/s
		14:32	SL 3 m a/D	35° 28,30' N	025° 51,04' E	581,0	± 295	± 0,0	270,0	0,0	1016,8	b	284 / 22	18,3	18,3				BOKO: 676 m @ 14:19
		14:34	Ende Station	35° 28,30' N	025° 51,06' E	582,0	± 300	± 0,0	57,8	1,1	1016,8	b	284 / 22	18,3	18,3				
507	14.05.2006	14:53	Schiff @ Station	35° 28,90' N	025° 52,23' E	712,0	± 296	± 0,0	270,0	0,0	1016,6	b	288 / 20	18,4	18,2			W 3	Gravity Core #: GeoB10453-1
		14:54	SL 3 m z/W	35° 28,90' N	025° 52,23' E	712,0	± 295	± 0,0	309,3	0,0	1016,6	b	288 / 19	18,4	18,1				Fieren 0,5 m/s - 1,5 m/s
		15:08	Boko/Hieven	35° 28,92' N	025° 52,20' E	714,0	± 300	± 0,0	112,3	0,0	1016,4	b	283 / 19	17,7	18,2	772	772		Hieven mit 0,5 m/s - 1,5 m/s
		15:25	SL 3 m a/D	35° 28,91' N	025° 52,23' E	712,0	± 299	± 0,0	270,0	0,0	1016,1	b	282 / 19	17,8	18,0				BOKO: 761 m @ 15:07
		15:27	Ende Station	35° 28,91' N	025° 52,23' E	712,0	± 298	± 0,0	210,8	0,2	1016,1	b	282 / 19	17,8	18,0				
508	14.05.2006	15:33	Schiff @ Station	35° 28,76' N	025° 52,12' E	708,0	± 230	± 2,0	180,0	0,0	1015,8	b	288 / 19	17,6	18,2				Ausbringen Seismik
		15:34	Katamaran z/W	35° 28,75' N	025° 52,12' E	708,0	± 230	± 2,0	217,2	0,6	1015,8	b	288 / 19	17,6	18,2				
		15:47	Streamer z/W	35° 28,30' N	025° 51,70' E	666,0	± 235	± 2,0	38,4	0,5	1015,9	b	283 / 18	18,0	18,1				
		15:36	Airgun z/W	35° 28,66' N	025° 52,05' E	701,0	± 235	± 2,0	210,5	1,9	1015,8	b	289 / 20	17,6	18,2				
		16:24	Beginn Profil	35° 26,99' N	025° 50,84' E	498,0	± 037	± 4,0	45,5	4,0	1016,2	b	278 / 19	17,7	18,0				Seismik Profilfahrt
		17:24	Ende Profil	35° 29,80' N	025° 54,35' E	748,0	± 038	± 4,0	270,0	0,0	1016,0	b	284 / 19	17,9	18,1				(Profil-Nr. Geophysik: GeoB06-206)
509	14.05.2006	17:24	Beginn Profil	35° 29,80' N	025° 54,35' E	748,0	± 134	± 4,0	123,5	0,6	1016,0	b	284 / 19	17,9	18,1				
		17:32	Ende Profil	35° 29,45' N	025° 55,00' E	813,0	± 133	± 4,0	270,0	0,0	1015,7	b	280 / 18	17,8	18,2				
510	14.05.2006	17:32	Beginn Profil	35° 29,45' N	025° 55,00' E	813,0	± 234	± 4,0	223,7	4,2	1015,7	b	280 / 18	17,8	18,2				
		18:58	Ende Profil	35° 26,38' N	025° 51,40' E	416,0	± 234	± 4,0	270,0	0,0	1015,7	b	293 / 21	17,4	18,0				
511	14.05.2006	18:58	Beginn Profil	35° 26,38' N	025° 51,40' E	416,0	± 135	± 4,0	134,5	1,3	1015,7	b	293 / 21	17,4	18,0				
		19:15	Ende Profil	35° 25,50' N	025° 52,50' E	437,0	± 135	± 4,0	270,0	0,0	1016,2	b	279 / 21	17,7	18,1				
512	14.05.2006	19:15	Beginn Profil	35° 25,50' N	025° 52,50' E	437,0	± 032	± 4,0	40,8	4,4	1016,2	b	279 / 21	17,7	18,1				
		20:37	Ende Profil	35° 28,80' N	025° 56,00' E	742,0	± 032	± 4,0	270,0	0,0	1016,1	b	280 / 18	17,8	18,1				
513	14.05.2006	20:37	Beginn Profil	35° 28,80' N	025° 56,00' E	742,0	± 125	± 4,0	125,4	3,8	1016,1	b	280 / 18	17,8	18,1				
		21:32	Ende Profil	35° 26,60' N	025° 59,80' E	711,0	± 125	± 4,0	270,0	0,0	1015,9	b	280 / 17	17,8	17,9				
514	14.05.2006	21:32	Beginn Profil	35° 26,60' N	025° 59,80' E	711,0	± 221	± 4,0	219,2	1,3	1015,9	b	280 / 17	17,8	17,9				
		21:52	Ende Profil	35° 25,60' N	025° 58,80' E	754,0	± 221	± 4,0	270,0	0,0	1015,9	b	276 / 18	17,8	18,1				
515	14.05.2006	21:52	Beginn Profil	35° 25,60' N	025° 58,80' E	754,0	± 306	± 4,0	306,6	7,7	1015,9	b	276 / 18	17,8	18,1				
		23:44	Ende Profil	35° 30,20' N	025° 51,20' E	738,0	± 306	± 4,0	270,0	0,0	1015,2	b	292 / 17	17,5	18,1				
516	14.05.2006	23:44	Beginn Profil	35° 30,20' N	025° 51,20' E	738,0	± 229	± 4,0	228,7	0,8	1015,2	b	292 / 17	17,5	18,1				
		23:55	Ende Profil	35° 29,70' N	025° 50,50' E	687,0	± 229	± 4,0	270,0	0,0	1014,5	b	288 / 20	17,3	18,1				
517	14.05.2006	23:55	Beginn Profil	35° 29,70' N	025° 50,50' E	687,0	± 130	± 4,0	129,8	7,9	1014,5	b	288 / 20	17,3	18,1				
	15.05.2006	01:53	Ende Profil	35° 24,67' N	025° 57,91' E	684,0	± 130	± 4,0	270,0	0,0	1014,5	b	281 / 20	17,3	18,1				
518	15.05.2006	01:53	Beginn Profil	35° 24,67' N	025° 57,91' E	684,0	± 214	± 4,0	213,6	2,5	1014,5	b	281 / 20	17,3	18,1				
		02:34	Ende Profil	35° 22,57' N	025° 56,20' E	592,0	± 214	± 4,0	270,0	0,0	1016,6	b	281 / 18	17,4	18,0				
519	15.05.2006	02:34	Beginn Profil	35° 22,57' N	025° 56,20' E	592,0	± 314	± 4,0	314,2	4,2	1016,6	b	281 / 18	17,4	18,0				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
		03:49	Ende Profil	35° 25,50' N	025° 52,50' E	516,0	± 314	± 4,0	270,0	0,0	1014,8	b	277 / 16	17,6	18,0				
520	15.05.2006	03:49	Beginn Profil	35° 25,50' N	025° 52,50' E	516,0	± 014	± 4,0	14,1	1,8	1014,8	b	277 / 16	17,6	18,0				
		04:16	Ende Profil	35° 27,29' N	025° 53,05' E	638,0	± 014	± 4,0	270,0	0,0	1015,0	b	282 / 15	17,3	18,2				
521	15.05.2006	04:16	Beginn Profil	35° 27,29' N	025° 53,05' E	638,0	± 311	± 4,0	310,5	2,9	1015,0	b	282 / 15	17,3	18,2				
		05:06	Ende Profil	35° 29,20' N	025° 50,30' E	643,0	± 311	± 3,7	310,7	0,2	1015,1	b	280 / 16	17,5	18,1				Ende Seismik Profilfahrt
		05:11	Katamaran an Deck	35° 29,34' N	025° 50,10' E	648,0	± 309	± 2,0	317,9	0,1	1015,1	b	282 / 16	17,5	18,1				Einholen der seism. Geräte
		05:14	Airgun an Deck	35° 29,43' N	025° 50,00' E	650,0	± 310	± 2,0	316,1	0,2	1015,0	b	284 / 16	17,5	18,0				
		05:19	Streamer an Deck	35° 29,54' N	025° 49,87' E	655,0	± 310	± 2,0	270,0	0,0	1015,0	b	287 / 16	17,3	17,8				
		05:19	Ende der Station	35° 29,54' N	025° 49,87' E	655,0	± 310	± 2,0	89,8	3,3	1015,0	b	287 / 16	17,3	17,8				
522	15.05.2006	05:54	Schiff @ Station	35° 29,55' N	025° 53,94' E	761,0	± 279	± 0,0	270,0	0,0	1015,1	b	266 / 16	17,5	18,2			W 3	Gravity Core #: GeoB10454-1
		05:54	SL z/W	35° 29,55' N	025° 53,94' E	761,0	± 279	± 0,0	180,0	0,0	1015,1	b	266 / 16	17,5	18,2				Fieren 0,5 m/s - 1,5 m/s
		06:13	Boko/Hieven	35° 29,53' N	025° 53,94' E	760,0	± 298	± 0,0	270,0	0,0	1015,2	b	266 / 16	17,5	18,1	823	823		Hieven mit 0,5 m/s - 1,5 m/s
		06:33	SL a/D	35° 29,53' N	025° 53,94' E	759,0	± 274	± 0,0	270,0	0,0	1015,1	b	273 / 16	17,2	18,2				BOKO: 809 m @ 06:13
		06:34	Ende Station	35° 29,53' N	025° 53,94' E	759,0	± 274	± 0,0	224,3	3,6	1015,1	b	273 / 16	17,2	18,2				
523	15.05.2006	07:09	Schiff @ Station	35° 26,94' N	025° 50,84' E	495,0	± 294	± 0,0	270,0	0,0	1015,4	b	274 / 5	17,9	18,0			W 3	Heat Flow #: H0608P01
		07:10	HF (Heat Flow) z/W	35° 26,94' N	025° 50,84' E	495,0	± 290	± 0,0	359,8	3,0	1015,4	b	274 / 15	17,9	18,0	400			Fieren 0,5 m/s - 1,5 m/s
		07:34	Boko/Hieven	35° 29,96' N	025° 50,83' E	496,0	± 271	± 0,0	180,2	3,0	1015,4	b	270 / 15	18,1	18,1	541	541		Hieven mit 0,5 m/s - 1,5 m/s
		07:50	HF (Heat Flow) a/D	35° 26,96' N	025° 50,82' E	495,0	± 284	± 0,0	270,0	0,0	1015,5	b	180 / 14	18,1	18,0				BOKO: 527 m @ 07:27
		07:50	Ende Station	35° 26,96' N	025° 50,82' E	495,0	± 284	± 0,0	49,2	0,4	1015,5	b	180 / 14	18,1	18,0				
524	15.05.2006	08:05	Schiff @ Station	35° 27,22' N	025° 51,19' E	564,0	± 282	± 0,0	270,0	0,0	1015,4	b	281 / 13	17,9	18,1			W 3	Heat Flow #: H0608P02
		08:06	HF (Heat Flow) z/W	35° 27,22' N	025° 51,18' E	564,0	± 288	± 0,0	270,0	0,0	1015,4	b	281 / 13	17,9	18,1	400			Fieren 0,5 m/s - 1,5 m/s
		08:29	Boko/Hieven	35° 27,22' N	025° 51,17' E	564,0	± 294	± 0,0	31,4	0,0	1015,6	b	294 / 12	18,1	18,2	614	614		Hieven mit 0,5 m/s - 1,5 m/s
		08:44	HF (Heat Flow) a/D	35° 27,26' N	025° 51,20' E	569,0	± 347	± 0,0	270,0	0,0	1015,6	b	300 / 13	18,0	18,4				BOKO: 601 m @ 08:21
		08:44	Ende Station	35° 27,26' N	025° 51,20' E	569,0	± 347	± 0,0	44,3	0,3	1015,6	b	300 / 13	18,0	18,4				
525	15.05.2006	09:18	Schiff @ Station	35° 27,46' N	025° 51,44' E	590,0	± 305	± 0,0	270,0	0,0	1015,6	b	298 / 13	18,0	18,3			W 3	Heat Flow #: H0608P03
		09:19	HF (Heat Flow) z/W	35° 27,46' N	025° 51,44' E	590,0	± 305	± 0,0	270,0	0,0	1015,6	b	298 / 13	18,0	18,3				Fieren 0,5 m/s - 1,5 m/s
		09:29	Boko/Hieven	35° 27,46' N	025° 51,45' E	589,0	± 305	± 0,0	28,5	0,1	1015,5	b	294 / 12	18,1	18,2	641	641		Hieven mit 0,5 m/s - 1,5 m/s
		09:45	HF (Heat Flow) a/D	35° 27,52' N	025° 51,49' E	603,0	± 010	± 0,0	270,0	0,0	1015,5	b	294 / 12	18,1	18,2				BOKO: 630 m @ 09:22
		09:47	Ende Station	35° 27,52' N	025° 51,49' E	603,0	± 030	± 0,0	60,1	0,3	1015,5	b	294 / 12	18,1	18,2				
526	15.05.2006	10:01	Schiff @ Station	35° 27,67' N	025° 51,81' E	628,0	± 300	± 0,0	270,0	0,0	1015,3	b	298 / 12	17,9	18,3			W 3	Heat Flow #: H0608P04
		10:02	HF (Heat Flow) z/W	35° 27,67' N	025° 51,81' E	628,0	± 300	± 0,0	320,8	0,0	1015,3	b	298 / 12	17,9	18,3				Fieren 0,5 m/s - 1,5 m/s
		10:24	Boko/Hieven	35° 27,70' N	025° 51,78' E	629,0	± 305	± 0,0	54,9	0,4	1015,4	b	301 / 12	18,1	18,3	683	683		Hieven mit 0,5 m/s - 1,5 m/s
		10:46	HF (Heat Flow) a/D	35° 27,94' N	025° 52,20' E	656,0	± 330	± 0,0	270,0	0,0	1015,4	b	301 / 12	18,0	18,5				BOKO: 670 m @ 10:18
		10:46	Ende Station	35° 27,94' N	025° 52,20' E	656,0	± 330	± 0,0	258,4	0,1	1015,4	b	301 / 12	18,0	18,5				
527	15.05.2006	11:19	Schiff @ Station	35° 27,92' N	025° 52,08' E	648,0	± 310	± 0,0	270,0	0,0	1015,3	b	300 / 14	18,2	18,4			W 3	Heat Flow #: H0608P05
		11:20	HF (Heat Flow) z/W	35° 27,92' N	025° 52,08' E	648,0	± 310	± 0,0	270,1	22,0	1015,3	b	300 / 14	18,2	18,4				Fieren 0,5 m/s - 1,5 m/s
		11:45	Boko/Hieven	35° 27,95' N	025° 25,07' E	649,0	± 300	± 0,0	89,6	21,9	1015,2	b	301 / 14	18,1	18,5	700	700		Hieven mit 0,5 m/s - 1,5 m/s
		11:58	HF (Heat Flow) a/D	35° 28,11' N	025° 51,91' E	659,0	± 310	± 0,0	270,0	0,0	1015,2	b	301 / 14	18,1	18,5				BOKO: 690 m @ 11:36
		11:59	Ende Station	35° 28,11' N	025° 51,91' E	659,0	± 310	± 0,0	312,0	0,3	1015,2	b	301 / 14	18,1	18,5				
528	15.05.2006	12:06	Schiff @ Station	35° 28,33' N	025° 51,61' E	667,0	± 295	± 0,0	270,0	0,0	1015,2	b	298 / 14	18,1	18,4			W 3	Heat Flow #: H0608P06
		12:07	HF (Heat Flow) z/W	35° 28,33' N	025° 51,61' E	667,0	± 295	± 0,0	247,7	0,0	1015,2	b	298 / 14	18,1	18,4				Fieren 0,5 m/s - 1,5 m/s
		12:28	Boko/Hieven	35° 28,32' N	025° 51,58' E	666,0	± 305	± 0,0	335,4	0,2	1015,1	b	293 / 14	18,2	18,5	718	718		Hieven mit 0,5 m/s - 1,5 m/s
		12:47	HF (Heat Flow) a/D	35° 28,48' N	025° 51,49' E	678,0	± 315	± 0,0	270,0	0,0	1014,9	b	299 / 12	18,3	18,5				BOKO: 718 m @ 12:21
		12:48	Ende Station	35° 28,48' N	025° 51,49' E	678,0	± 315	± 0,0	297,8	0,3	1014,9	b	299 / 12	18,3	18,5				
529	15.05.2006	12:59	Schiff @ Station	35° 28,63' N	025° 51,14' E	610,0	± 290	± 0,0	180,0	0,0	1014,8	b	297 / 14	18,4	18,4			W 3	Heat Flow #: H0608P07
		13:00	HF (Heat Flow) z/W	35° 28,62' N	025° 51,14' E	610,0	± 301	± 0,0	270,0	0,0	1014,9	b	297 / 14	18,4	18,4				Fieren 0,5 m/s - 1,5 m/s
		13:21	Boko/Hieven	35° 28,62' N	025° 51,15' E	610,0	± 305	± 0,0	301,5	0,0	1014,8	b	303 / 14	18,0	18,5	663	663		Hieven mit 0,5 m/s - 1,5 m/s
		13:32	HF (Heat Flow) a/D	35° 28,63' N	025° 51,13' E	610,0	± 304	± 0,0	301,5	0,0	1014,9	b	303 / 14	18,2	18,4				BOKO: 650 m @ 13:14
		13:37	Ende Station	35° 28,64' N	025° 51,11' E	609,0	± 305	± 0,0	311,1	0,8	1014,9	b	303 / 13	18,2	18,5				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
530	15.05.2006	14:00	Schiff @ Station	35° 29,18' N	025° 50,35' E	645,0	± 307	± 0,0	180,0	0,0	1014,8	b	296 / 13	18,4	18,6			W 3	Heat Flow #: H0608P08
		14:02	HF (Heat Flow) z/W	35° 29,19' N	025° 50,35' E	645,0	± 308	± 0,0	202,2	0,0	1014,8	b	296 / 14	18,3	18,5				Fieren 0,5 m/s - 1,5 m/s
		14:23	Boko/Hieven	35° 29,17' N	025° 50,34' E	643,0	± 300	± 0,0	39,2	0,0	1014,8	b	296 / 13	18,0	18,6	698	698		Hieven mit 0,5 m/s - 1,5 m/s
		14:37	HF (Heat Flow) a/D	35° 29,20' N	025° 50,37' E	647,0	± 300	± 0,0	270,0	0,0	1014,8	b	295 / 12	18,3	18,7				BOKO: 686 m @ 14:15
		14:38	Ende Station	35° 29,20' N	025° 50,37' E	647,0	± 300	± 0,0	174,4	2,5	1014,8	b	295 / 12	18,3	18,7				
531	15.05.2006	15:17	Schiff @ Station	35° 26,73' N	025° 50,67' E	480,0	± 307	± 0,0	180,0	0,0	1014,8	b	276 / 13	18,2	18,5			W 3	Heat Flow #: H0608P09
		15:19	HF (Heat Flow) z/W	35° 26,74' N	025° 50,67' E	481,0	± 305	± 0,0	180,0	0,0	1014,8	b	276 / 12	18,2	18,5				Fieren 0,5 m/s - 1,5 m/s
		15:37	Boko/Hieven	35° 26,73' N	025° 50,67' E	480,0	± 285	± 0,0	180,0	0,0	1014,6	b	279 / 13	18,3	18,5	523	523		Hieven mit 0,5 m/s - 1,5 m/s
		15:47	HF (Heat Flow) a/D	35° 26,74' N	025° 50,67' E	481,0	± 296	± 0,0	270,0	0,0	1014,6	b	280 / 13	18,3	18,5				BOKO: 512 m @ 15:29
		15:47	Ende Station	35° 26,74' N	025° 50,67' E	481,0	± 296	± 0,0	270,0	0,0	1014,6	b	280 / 13	18,3	18,5				
531-2	15.05.2006	15:51	Schiff @ Station	35° 26,74' N	025° 50,67' E	480,0	± 285	± 0,0	270,0	0,0	1014,5	b	280 / 13	18,4	18,5			W 3	Gravity Core #: GeoB10455-1
		15:51	SL z/W	35° 26,74' N	025° 50,67' E	480,0	± 285	± 0,0	252,9	0,0	1014,5	b	280 / 13	18,4	18,5				Fieren 0,5 m/s - 1,5 m/s
		16:00	Boko/Hieven	35° 26,73' N	025° 50,63' E	479,0	± 285	± 0,0	129,3	0,0	1014,5	b	279 / 13	18,4	18,4	519	519		Hieven mit 0,5 m/s - 1,5 m/s
		16:08	SL a/D	35° 26,71' N	025° 50,66' E	479,0	± 285	± 0,0	270,0	0,0	1014,5	b	279 / 13	18,3	18,5				BOKO: 507 m @ 15:59
		16:08	Ende Station	35° 26,71' N	025° 50,66' E	479,0	± 285	± 0,0	159,6	2,9	1014,5	b	279 / 13	18,3	18,5				
532	15.05.2006	16:49	Beginn MB - Profil	35° 24,00' N	025° 51,90' E	448,0	± 190	± 8,0	181,9	2,5	1014,4	b	286 / 17	18,4	18,4				Multibeam - Kartierung
		17:08	Ende MB - Profil	35° 21,50' N	025° 51,80' E	326,0	± 190	± 8,0	270,0	0,0	1014,4	b	294 / 19	18,9	18,5				(#: GeoB10456)
533	15.05.2006	17:08	Beginn MB - Profil	35° 21,50' N	025° 51,80' E	326,0	± 134	± 8,0	134,6	7,0	1014,4	b	294 / 19	18,9	18,5				
		18:00	Ende MB - Profil	35° 16,60' N	025° 57,90' E	383,0	± 134	± 8,0	270,0	0,0	1014,5	b	279 / 19	19,0	18,4				
534	15.05.2006	18:00	Beginn MB - Profil	35° 16,60' N	025° 57,90' E	383,0	± 046	± 8,0	46,9	1,0	1014,5	b	279 / 19	19,0	18,4				
		18:09	Ende MB - Profil	35° 17,25' N	025° 58,75' E	315,0	± 046	± 8,0	270,0	0,0	1015,0	b	281 / 18	19,3	18,4				
535	15.05.2006	18:09	Beginn MB - Profil	35° 17,25' N	025° 58,75' E	315,0	± 315	± 8,0	315,0	7,6	1015,0	b	281 / 18	19,3	18,4				
		19:10	Ende MB - Profil	35° 22,60' N	025° 52,20' E	384,0	± 315	± 8,0	270,0	0,0	1015,1	b	298 / 22	18,8	18,4				
536	15.05.2006	19:10	Beginn MB - Profil	35° 22,60' N	025° 52,20' E	384,0	± 000	± 8,0	360,0	1,4	1015,1	b	298 / 22	18,8	18,4				
		19:20	Ende MB - Profil	35° 24,00' N	025° 52,20' E	436,0	± 000	± 8,0	270,0	0,0	1015,4	b	286 / 22	18,6	18,2				
537	15.05.2006	19:24	Beginn MB - Profil	35° 24,00' N	025° 52,20' E	436,0	± 135	± 8,0	134,9	8,4	1015,4	b	286 / 22	18,6	18,2				
		20:26	Ende MB - Profil	35° 18,10' N	025° 59,45' E	496,0	± 135	± 8,0	270,0	0,0	1015,6	b	284 / 19	18,6	18,0				
538	15.05.2006	20:26	Beginn MB - Profil	35° 18,10' N	025° 59,45' E	496,0	± 044	± 8,0	43,6	1,2	1015,6	b	284 / 19	18,6	18,0				
		20:36	Ende MB - Profil	35° 19,00' N	026° 00,50' E	401,0	± 044	± 8,0	270,0	0,0	1015,6	b	288 / 18	18,5	18,3				
539	15.05.2006	20:36	Beginn MB - Profil	35° 19,00' N	026° 00,50' E	401,0	± 314	± 8,0	313,8	3,6	1015,6	b	288 / 18	18,5	18,3				
		21:05	Ende MB - Profil	35° 21,50' N	025° 57,30' E	582,0	± 314	± 8,0	270,0	0,0	1015,4	b	290 / 19	18,7	18,2				
540	15.05.2006	21:05	Beginn MB - Profil	35° 21,50' N	025° 57,30' E	582,0	± 036	± 8,0	36,5	2,7	1015,4	b	290 / 19	18,7	18,2				
		21:24	Ende MB - Profil	35° 23,65' N	025° 59,25' E	649,0	± 036	± 8,0	270,0	0,0	1015,4	b	290 / 19	18,7	18,2				
541	15.05.2006	21:24	Beginn MB - Profil	35° 23,65' N	025° 59,25' E	649,0	± 047	± 8,0	46,6	3,4	1015,4	b	290 / 19	18,7	18,2				
		21:50	Ende MB - Profil	35° 26,00' N	026° 02,30' E	761,0	± 047	± 8,0	270,0	0,0	1015,5	b	297 / 20	17,9	18,1				
542	15.05.2006	21:50	Beginn MB - Profil	35° 26,00' N	026° 02,30' E	761,0	± 090	± 8,0	270,0	1,6	1015,5	b	297 / 20	17,9	18,1				
		22:07	Ende MB - Profil	35° 26,00' N	026° 04,30' E	878,0	± 090	± 8,0	270,0	0,0	1015,5	b	297 / 20	17,9	18,1				
543	15.05.2006	22:07	Beginn MB - Profil	35° 26,00' N	026° 04,30' E	878,0	± 219	± 8,0	219,2	5,2	1015,5	b	297 / 20	17,9	18,1				
		22:46	Ende MB - Profil	35° 22,00' N	026° 00,30' E	487,0	± 219	± 8,0	270,0	0,0	1015,2	b	301 / 20	18,0	18,3				
544	15.05.2006	22:46	Beginn MB - Profil	35° 22,00' N	026° 00,30' E	487,0	± 150	± 8,0	150,3	1,2	1015,2	b	301 / 20	18,0	18,3				
		22:58	Ende MB - Profil	35° 21,00' N	026° 01,00' E	496,0	± 150	± 8,0	270,0	0,0	1015,2	b	301 / 20	18,0	18,3				
545	15.05.2006	22:58	Beginn MB - Profil	35° 21,00' N	026° 01,00' E	496,0	± 041	± 8,0	41,5	6,1	1015,2	b	301 / 20	18,0	18,3				
		23:46	Ende MB - Profil	35° 25,60' N	026° 06,00' E	765,0	± 041	± 8,0	270,0	0,0	1014,8	b	284 / 20	18,1	18,1				
546	15.05.2006	23:46	Beginn MB - Profil	35° 25,60' N	026° 06,00' E	765,0	± 058	± 8,0	58,5	3,3	1014,8	b	284 / 20	18,1	18,1				
	16.05.2006	00:15	Ende MB - Profil	35° 27,30' N	026° 09,40' E	982,0	± 058	± 8,0	270,0	0,0	1014,5	b	285 / 20	18,1	18,0				
547	16.05.2006	00:15	Beginn MB - Profil	35° 27,30' N	026° 09,40' E	982,0	± 271	± 8,0	271,1	5,3	1014,5	b	285 / 20	18,1	18,0				
		00:58	Ende MB - Profil	35° 27,40' N	026° 02,90' E	681,0	± 271	± 8,0	270,0	0,0	1014,1	b	286 / 23	17,8	18,3				
548	16.05.2006	00:58	Beginn MB - Profil	35° 27,40' N	026° 02,90' E	681,0	± 313	± 8,0	312,6	1,3	1014,1	b	286 / 23	17,8	18,3				
		01:09	Ende MB - Profil	35° 28,30' N	026° 01,70' E	720,0	± 313	± 8,0	270,0	0,0	1014,1	b	286 / 23	17,8	18,3				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 432,10 h
1544,5 sm
Station: 335,08 h
Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
549	16.05.2006	01:09	Beginn MB - Profil	35° 28,30' N	026° 01,70' E	720,0	± 300	± 8,0	299,9	7,4	1014,1	b	286 / 23	17,8	18,3				
		02:06	Ende MB - Profil	35° 32,00' N	025° 53,80' E	831,0	± 360	± 8,0	270,0	0,0	1014,0	b	288 / 25	17,7	18,3				
550	16.05.2006	02:06	Beginn MB - Profil	35° 32,00' N	025° 53,80' E	831,0	± 360	± 8,0	180,0	3,5	1014,0	b	288 / 25	17,7	18,3				
		02:32	Abbruch MB - Profil	35° 35,45' N	025° 53,80' E	612,0	± 360	± 8,0	251,0	8,6	1013,9	b	282 / 26	17,5	18,3				
551	16.05.2006	04:04	Schiff @ Station	35° 32,64' N	025° 43,76' E	744,0	± 287	± 0,0	256,2	0,0	1015,0	b	279 / 26	18,0	18,3			W 3	Gravity Core #: GeoB10457-1
		04:18	SL 6 m z/W	35° 32,63' N	025° 43,71' E	744,0	± 300	± 0,0	34,1	0,1	1015,1	b	283 / 26	18,1	18,2				Fieren 0,5 m/s - 1,5 m/s
		04:33	Boko/Hieven	35° 32,69' N	025° 43,76' E	744,0	± 280	± 0,0	167,5	0,1	1015,1	b	287 / 24	17,8	18,2	808	808		Hieven mit 0,5 m/s - 1,5 m/s
		04:48	SL 6 m a/D	35° 32,58' N	025° 43,79' E	743,0	± 280	± 0,0	270,0	0,0	1015,1	b	284 / 24	17,6	18,3				BOKO: 790 m @ 04:32
		04:48	Ende Station	35° 32,58' N	025° 43,79' E	743,0	± 280	± 0,0	131,4	8,0	1015,1	b	284 / 24	17,6	18,3				
552	16.05.2006	06:16	Schiff @ Station	35° 27,27' N	025° 51,19' E	568,0	± 305	± 0,0	220,9	0,2	1015,6	b	288 / 25	17,8	18,0			W 3	Gravity Core #: GeoB10458-1
		07:11	SL 6 m z/W	35° 27,11' N	025° 51,02' E	515,0	± 295	± 0,0	320,8	0,0	1015,7	b	290 / 25	18,0	18,0				Fieren 0,5 m/s - 1,5 m/s
		07:20	Boko/Hieven	35° 27,12' N	025° 51,01' E	515,0	± 298	± 0,0	140,8	0,0	1015,7	b	292 / 25	18,3	18,1	578	578		Hieven mit 0,5 m/s - 1,5 m/s
		07:36	SL 6 m a/D	35° 27,11' N	025° 51,02' E	516,0	± 292	± 0,0	270,0	0,0	1015,7	b	296 / 25	18,0	18,2				BOKO: 565 m
		07:36	Ende Station	35° 27,11' N	025° 51,02' E	516,0	± 292	± 0,0	140,8	0,0	1015,7	b	296 / 25	18,0	18,2				
553	16.05.2006	07:58	Schiff @ Station	35° 27,10' N	025° 51,03' E	517,0	± 300	± 0,0	270,0	0,0	1015,7	b	302 / 25	18,5	18,1			W 2	CPT #: GeoB10459-1
		07:58	CPT z/W	35° 27,10' N	025° 51,03' E	517,0	± 300	± 0,0	180,0	0,0	1015,7	b	300 / 25	18,3	18,1				Fieren 0,5 m/s - 1,5 m/s
		08:21	Boko/Hieven	35° 27,11' N	025° 51,03' E	516,0	± 300	± 0,0	270,0	0,0	1015,7	b	302 / 25	18,0	18,2	560	560		Hieven mit 0,5 m/s - 1,5 m/s
		08:31	CPT @ Deck	35° 27,11' N	025° 51,03' E	517,0	± 303	± 0,0	270,0	0,0	1015,7	b	304 / 25	18,0	18,2				BOKO: 549 m @ 08:11
		08:31	Ende der Station	35° 27,11' N	025° 51,03' E	517,0	± 300	± 0,0	270,0	0,0	1015,7	b	303 / 25	18,5	18,1				
553-2	16.05.2006	08:31	Schiff @ Station	35° 27,11' N	025° 51,03' E	517,0	± 303	± 0,0	270,0	0,0	1015,7	b	303 / 25	18,4	18,2			W 2	CPT #: GeoB10459-2
		08:33	CPT z/W	35° 27,11' N	025° 51,03' E	517,0	± 303	± 0,0	270,0	0,0	1016,1	b	301 / 25	18,5	18,1				Fieren 0,5 m/s - 1,5 m/s
		08:54	Boko/Hieven	35° 27,11' N	025° 51,03' E	517,0	± 303	± 0,0	270,0	0,0	1016,1	b	301 / 25	18,4	18,2	561	561		Hieven mit 0,5 m/s - 1,5 m/s
		09:02	CPT @ Deck	35° 27,11' N	025° 51,03' E	516,0	± 301	± 0,0	270,0	0,0	1016,0	b	307 / 25	18,3	18,1				BOKO: 549 m @ 08:11
		09:02	Ende der Station	35° 27,11' N	025° 51,03' E	517,0	± 304	± 0,0	270,0	0,0	1016,0	b	305 / 25	18,5	18,2				
553-3	16.05.2006	09:06	Schiff @ Station	35° 27,11' N	025° 51,05' E	522,0	± 304	± 0,0	270,0	0,0	1016,0	b	304 / 25	18,4	18,1			W 2	CPT #: GeoB10459-3
		09:06	CPT z/W	35° 27,11' N	025° 51,05' E	522,0	± 304	± 0,0	270,0	0,0	1016,1	b	304 / 25	18,4	18,0				Fieren 0,5 m/s - 1,5 m/s
		09:26	Boko/Hieven	35° 27,11' N	025° 51,05' E	520,0	± 310	± 0,0	238,5	0,0	1016,2	b	303 / 25	18,5	18,3	570	570		Hieven mit 0,5 m/s - 1,5 m/s
		09:35	CPT @ Deck	35° 27,10' N	025° 51,03' E	516,0	± 310	± 0,0	270,0	0,0	1016,3	b	299 / 23	18,4	18,3				BOKO: 559 m @ 09:16
		09:36	Ende der Station	35° 27,10' N	025° 51,03' E	516,0	± 310	± 0,0	22,2	0,0	1016,3	b	299 / 23	18,4	18,3				
553-4	16.05.2006	09:46	Schiff @ Station	35° 27,14' N	025° 51,05' E	525,0	± 305	± 0,0	270,0	0,0	1016,3	b	290 / 23	18,3	18,3			W 2	CPT #: GeoB10459-4
		09:47	CPT z/W	35° 27,14' N	025° 51,05' E	525,0	± 305	± 0,0	320,8	0,0	1016,3	b	290 / 23	18,3	18,3				Fieren 0,5 m/s - 1,5 m/s
		10:06	Boko/Hieven	35° 27,15' N	025° 51,04' E	525,0	± 305	± 0,0	270,0	0,0	1016,3	b	290 / 20	18,9	18,4	569	569		Hieven mit 0,5 m/s - 1,5 m/s
		10:16	CPT @ Deck	35° 27,15' N	025° 51,04' E	523,0	± 310	± 0,0	270,0	0,0	1016,3	b	290 / 20	18,9	18,4				BOKO: 558 m @ 09:57
		10:17	Ende der Station	35° 27,15' N	025° 51,04' E	523,0	± 310	± 0,0	58,5	0,1	1016,3	b	290 / 20	18,9	18,4				
553-5	16.05.2006	10:26	Schiff @ Station	35° 27,18' N	025° 51,10' E	559,0	± 305	± 0,0	270,0	0,0	1016,2	b	299 / 22	18,6	18,4			W 2	CPT #: GeoB10459-5
		10:27	CPT z/W	35° 27,18' N	025° 51,10' E	559,0	± 305	± 0,0	270,0	0,0	1016,2	b	299 / 22	18,6	18,4				Fieren 0,5 m/s - 1,5 m/s
		10:46	Boko/Hieven	35° 27,18' N	025° 51,10' E	559,0	± 305	± 0,0	180,0	0,0	1016,3	b	296 / 22	18,6	18,3	582	582		Hieven mit 0,5 m/s - 1,5 m/s
		10:55	CPT @ Deck	35° 27,21' N	025° 51,10' E	562,0	± 300	± 0,0	270,0	0,0	1016,3	b	296 / 22	18,6	18,3				BOKO: 568 m @ 10:36
		10:56	Ende der Station	35° 27,21' N	025° 51,10' E	562,0	± 300	± 0,0	180,0	0,0	1016,3	b	296 / 22	18,6	18,3				
553-6	16.05.2006	11:02	Schiff @ Station	35° 27,23' N	025° 51,10' E	561,0	± 310	± 0,0	270,0	0,0	1016,1	b	299 / 22	18,7	18,4			W 2	CPT #: GeoB10459-6
		11:03	CPT z/W	35° 27,23' N	025° 51,10' E	561,0	± 310	± 0,0	320,8	0,0	1016,1	b	299 / 22	18,7	18,4				Fieren 0,5 m/s - 1,5 m/s
		11:25	Boko/Hieven	35° 27,24' N	025° 51,09' E	559,0	± 310	± 0,0	39,2	0,0	1016,1	b	299 / 22	18,7	18,4	583	583		Hieven mit 0,5 m/s - 1,5 m/s
		11:34	CPT @ Deck	35° 27,25' N	025° 51,10' E	559,0	± 310	± 0,0	270,0	0,0	1016,2	b	294 / 20	18,3	18,5				BOKO: 571 m @ 11:14
		11:35	Ende der Station	35° 27,25' N	025° 51,10' E	559,0	± 310	± 0,0	129,3	0,1	1016,2	b	294 / 20	18,3	18,5				
554	16.05.2006	11:42	Schiff @ Station	35° 27,21' N	025° 51,16' E	563,0	± 310	± 0,0	270,0	0,0	1016,2	b	294 / 20	18,3	18,5			W 2	CPT #: GeoB10460-1
		11:43	CPT z/W	35° 27,21' N	025° 51,16' E	563,0	± 310	± 0,0	180,0	0,0	1016,2	b	294 / 20	18,3	18,5				Fieren 0,5 m/s - 1,5 m/s
		12:02	Boko/Hieven	35° 27,22' N	025° 51,16' E	565,0	± 310	± 0,0	47,4	0,0	1016,0	b	290 / 21	18,4	18,6	586	586		Hieven mit 0,5 m/s - 1,5 m/s
		12:11	CPT @ Deck	35° 27,25' N	025° 51,20' E	568,0	± 320	± 0,0	270,0	0,0	1016,0	b	290 / 21	18,4	18,6				BOKO: 574 m @ 11:52
		12:12	Ende der Station	35° 27,25' N	025° 51,20' E	568,0	± 320	± 0,0	47,7	0,3	1016,0	b	290 / 21	18,4	18,6				

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 1544,5 sm 432,10 h
Station: 335,08 h Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks
555	16.05.2006	12:22	Schiff @ Station	35° 27,45' N	025° 51,47' E	590,0	± 305	± 0,0	270,0	0,0	1015,8	b	286 / 20	18,4	18,3			W 2	CPT #: GeoB10461
		12:23	CPT z/W	35° 27,45' N	025° 51,47' E	590,0	± 305	± 0,0	331,5	0,0	1015,8	b	286 / 20	18,4	18,3				Fieren 0,5 m/s - 1,5 m/s
		12:41	Boko/Hieven	35° 27,48' N	025° 51,45' E	591,0	± 295	± 0,0	270,0	0,0	1015,8	b	282 / 20	18,7	18,4	612	612		Hieven mit 0,5 m/s - 1,5 m/s
		12:51	CPT @ Deck	35° 27,48' N	025° 51,49' E	592,0	± 300	± 0,0	270,0	0,0	1015,9	b	280 / 21	18,7	18,4				BOKO: 600 m @ 12:32
		12:52	Ende der Station	35° 27,48' N	025° 51,49' E	592,0	± 300	± 0,0			1015,9	b	280 / 21	18,7	18,4				
556	16.05.2006		Schiff @ Station	35° N	025° E		±	± 0,0				b							CPT #: GeoB10462
			CPT z/W	35° N	025° E		±	± 0,0				b							Fieren 0,5 m/s - 1,5 m/s
			Boko/Hieven	35° N	025° E		±	± 0,0				b							Hieven mit 0,5 m/s - 1,5 m/s
			CPT @ Deck	35° N	025° E		±	± 0,0				b							BOKO:xxx m @
			Ende der Station	35° N	025° E		±	± 0,0				b							
557	16.05.2006		Beginn MB - Profil	35° 32,00' N	025° 53,80' E		±	± 8,0	180,0	1,8									
			Ende MB - Profil	35° 33,75' N	025° 53,80' E		±	± 8,1	270,0	0,0									
			Beginn MB - Profil	35° 33,75' N	025° 53,80' E		±	± 8,2	121,0	8,3									
			Ende MB - Profil	35° 29,50' N	026° 02,50' E		±	± 8,3	270,0	0,0									
			Beginn MB - Profil	35° 29,50' N	026° 02,50' E		±	± 8,4	124,5	1,2									
			Ende MB - Profil	35° 28,80' N	026° 03,75' E		±	± 8,5	270,0	0,0									
			Beginn MB - Profil	35° 28,80' N	026° 03,75' E		±	± 8,6	91,8	4,7									
			Ende MB - Profil	35° 28,65' N	026° 09,50' E		±	± 8,7	270,0	0,0									
			Beginn MB - Profil	35° 28,65' N	026° 09,50' E		±	± 8,8	289,7	4,0									
			Ende MB - Profil	35° 30,00' N	026° 04,86' E		±	± 8,9	270,0	0,2									
			Beginn MB - Profil	35° 30,00' N	026° 04,60' E		±	± 8,10	282,6	0,9									
			Ende MB - Profil	35° 30,20' N	026° 03,50' E		±	± 8,11	270,0	0,0									
			Beginn MB - Profil	35° 30,20' N	026° 03,50' E		±	± 8,12	303,6	9,5									
			Ende MB - Profil	35° 35,45' N	025° 53,80' E		±	± 8,13	270,0	0,0									
			Beginn MB - Profil	35° 35,45' N	025° 53,80' E		±	± 8,14	17,2	1,1									
			Ende MB - Profil	35° 36,50' N	025° 54,20' E		±	± 8,15	270,0	0,0									
			Beginn MB - Profil	35° 36,50' N	025° 54,20' E		±	± 8,16	117,7	9,5									
			Ende MB - Profil	35° 32,10' N	026° 04,50' E		±	± 8,17	270,0	0,0									
			Beginn MB - Profil	35° 32,10' N	026° 04,50' E		±	± 8,18	145,9	0,7									
			Ende MB - Profil	35° 31,50' N	026° 05,00' E		±	± 8,19	270,0	0,0									
			Beginn MB - Profil	35° 31,50' N	026° 05,00' E		±	± 8,20	270,0	4,1									
			Ende MB - Profil	35° 31,50' N	026° 10,00' E		±	± 8,21	270,0	0,0									
			Beginn MB - Profil	35° 31,50' N	026° 10,00' E		±	± 8,22	18,0	1,6									
			Ende MB - Profil	35° 33,00' N	026° 10,60' E		±	± 8,23	270,0	0,0									
			Beginn MB - Profil	35° 33,00' N	026° 10,60' E		±	± 8,24	270,0	52,6									
			Ende MB - Profil	35° 33,00' N	025° 06,00' E		±	± 8,25	270,0	0,0									
			Beginn MB - Profil	35° 33,00' N	025° 06,00' E		±	± 8,26	310,7	1,1									
			Ende MB - Profil	35° 33,70' N	025° 05,00' E		±	± 8,27	270,0	0,0									
			Beginn MB - Profil	35° 33,70' N	025° 05,00' E		±	± 8,28	84,2	40,9									
			Ende MB - Profil	35° 37,80' N	025° 55,00' E		±	± 8,29											

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

Mapping Distance: 229,5 h 1019,6 sm
Ø speed: 4,4 kn
Voyage: 1544,5 sm 432,10 h
Station: 335,08 h Stations: 298
Wireline max.: 2382 m
Time for Air sampling:

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks

Cruise: POS 336
Principal Scientist: Dr. A. Kopf

Station - Log

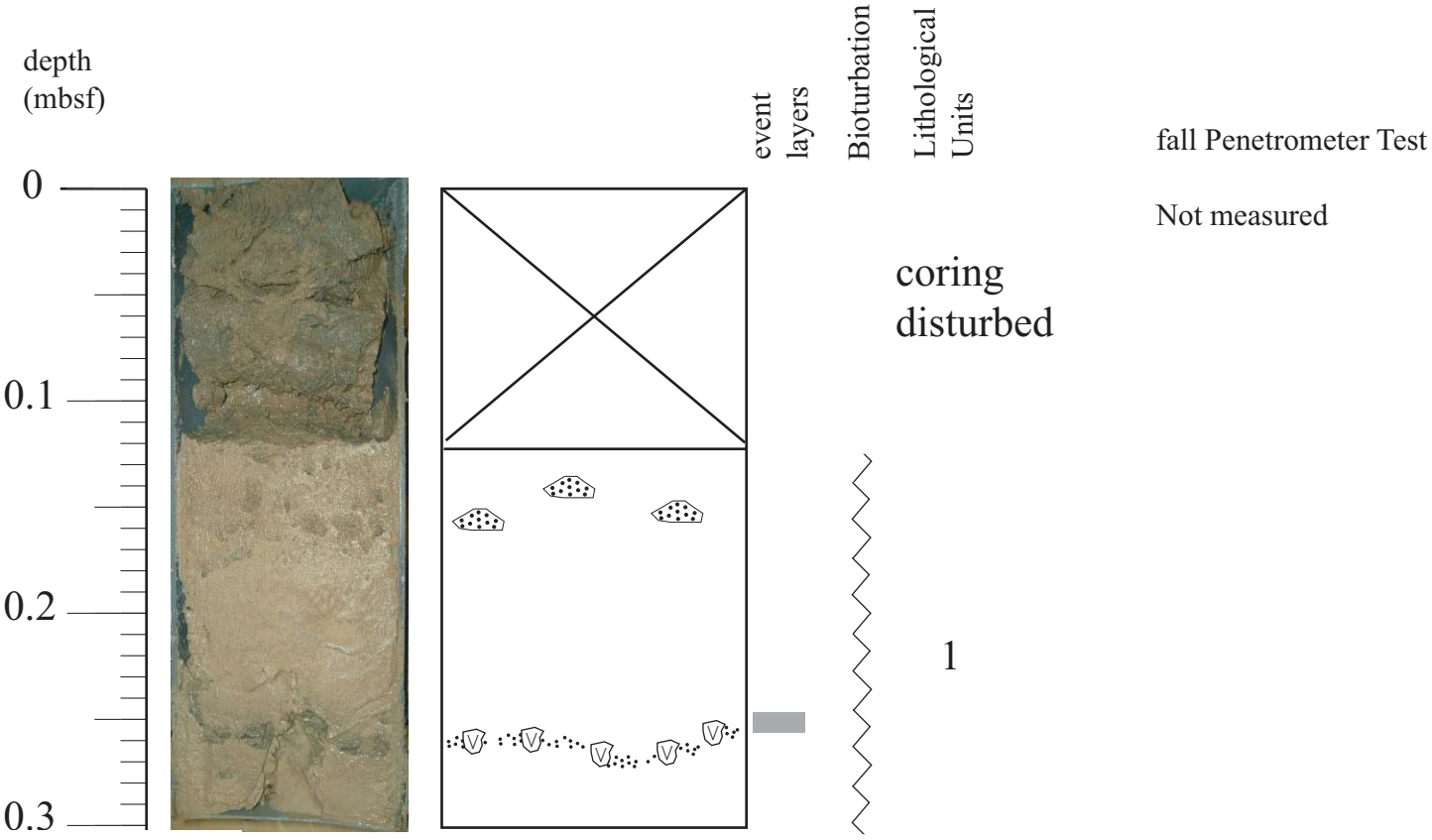
Mapping 229,5 h Voyage: 1544,5 sm Station: 335,08 h ***Time for Air sampling:***
Distance: 1019,6 sm 432,10 h Stations: 298
Ø speed: 4,4 kn Wireline max.: 2382 m

Stat.-No.	Date	Time UTC	Description	LATITUDE	LONGITUDE	WD [m] +4,3m	Course steered [°]	v [kn]	Ground Track [°]	Distance [nm]	Press. [hPa]	Weather	Wind [deg / knts]	Air Temp. [°C]	Water Temp. [°C]	Wire Length [m]	Wire Length max. [m]	Winch	Remarks

9.2 Lithologs and core photographs

Core Log GeoB10404-2

Date: 30.4.06

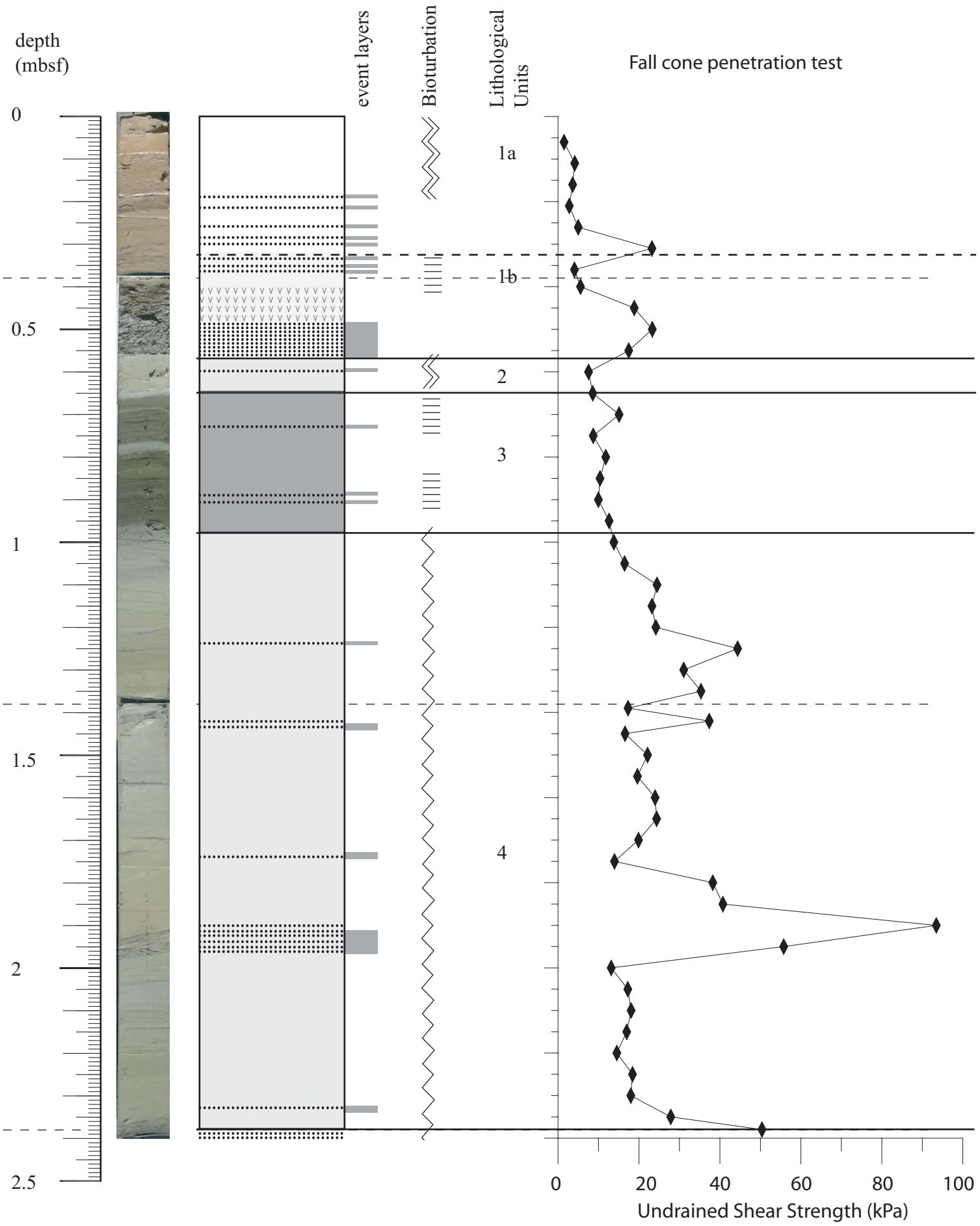


fall Penetrometer Test

Not measured

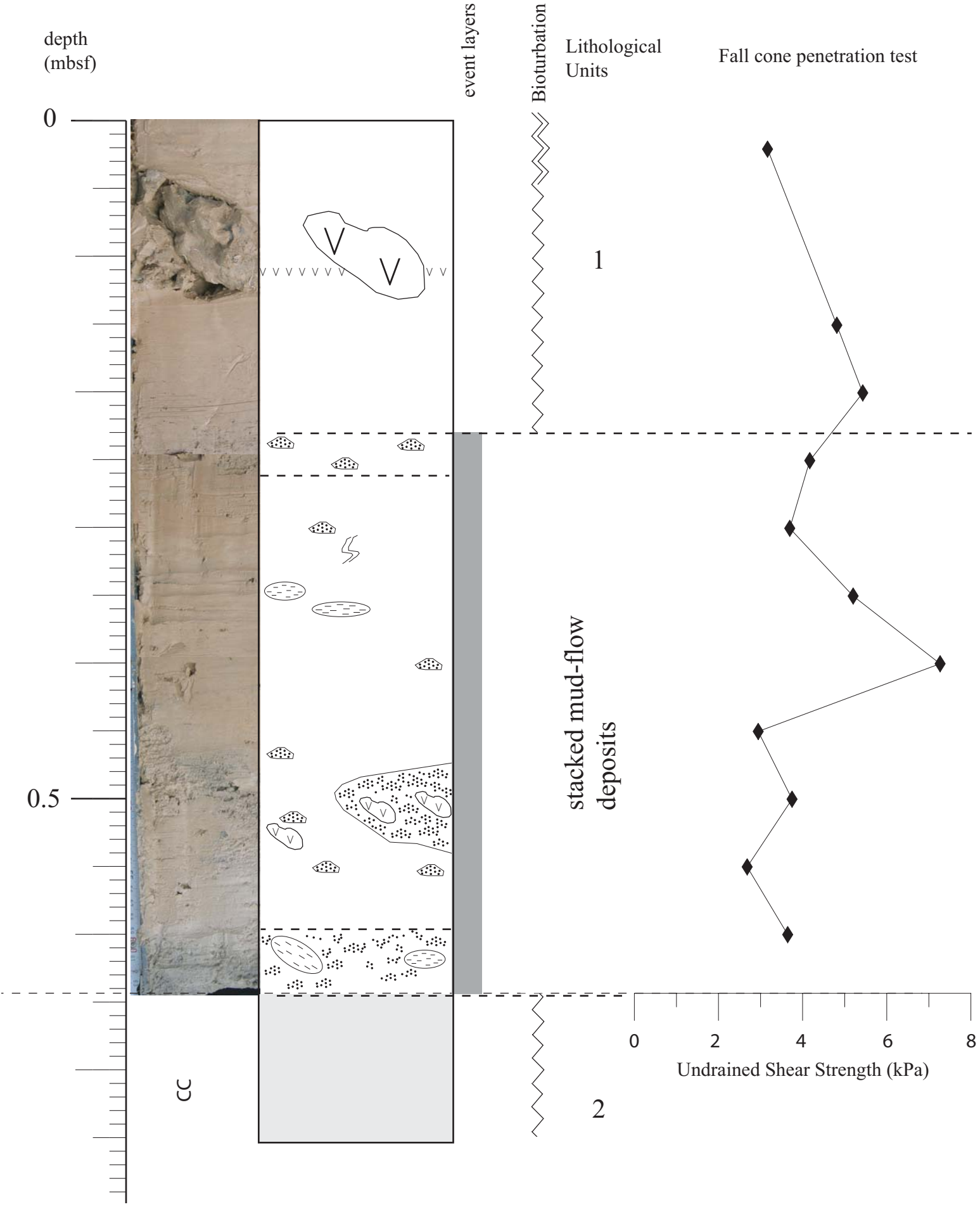
Core Log GeoB10405-1

Date: 1.5.06



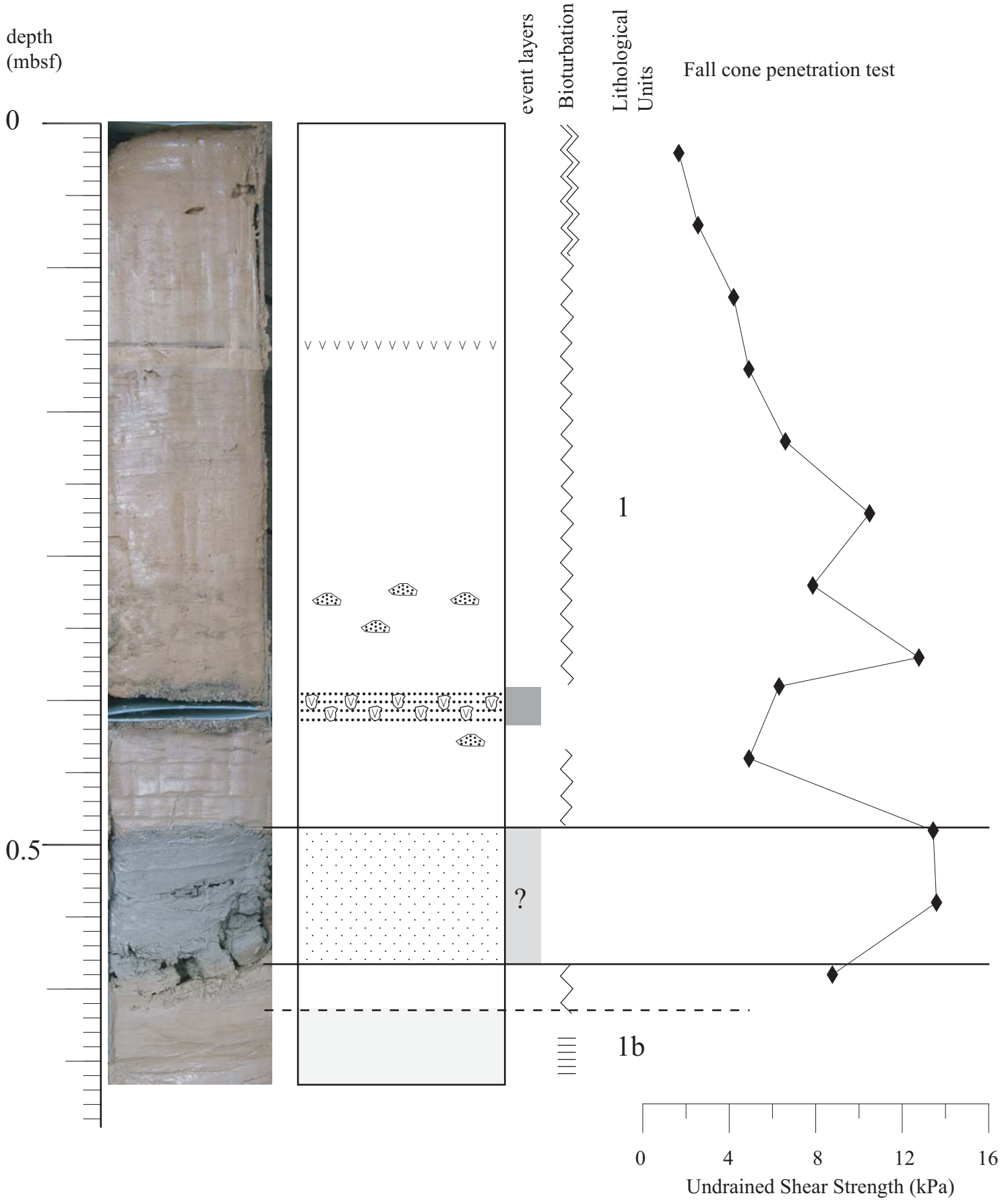
Core Log GeoB10406-1

Date: 3.5.06



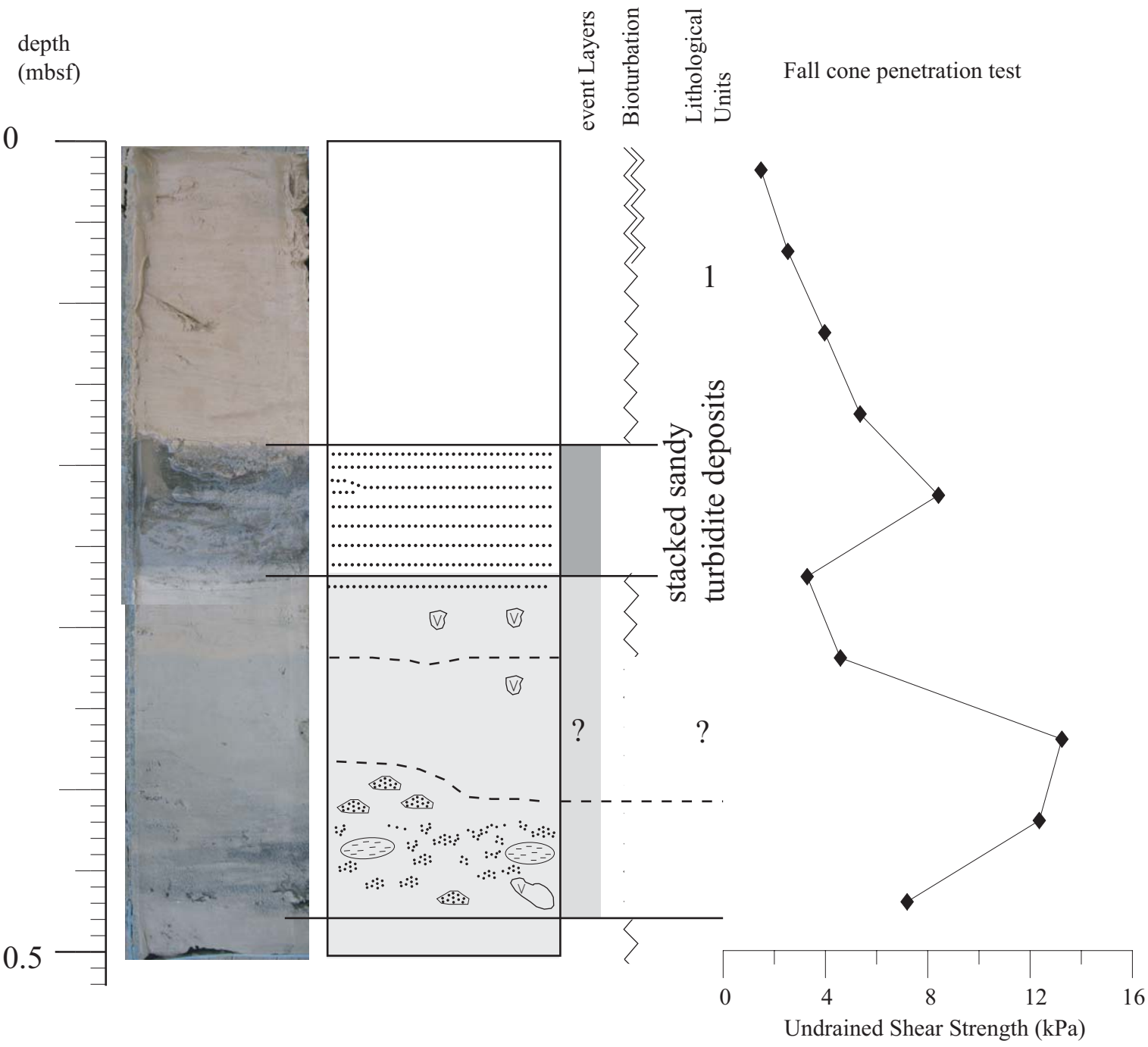
Core Log GeoB10406-3

Date: 3.5.06



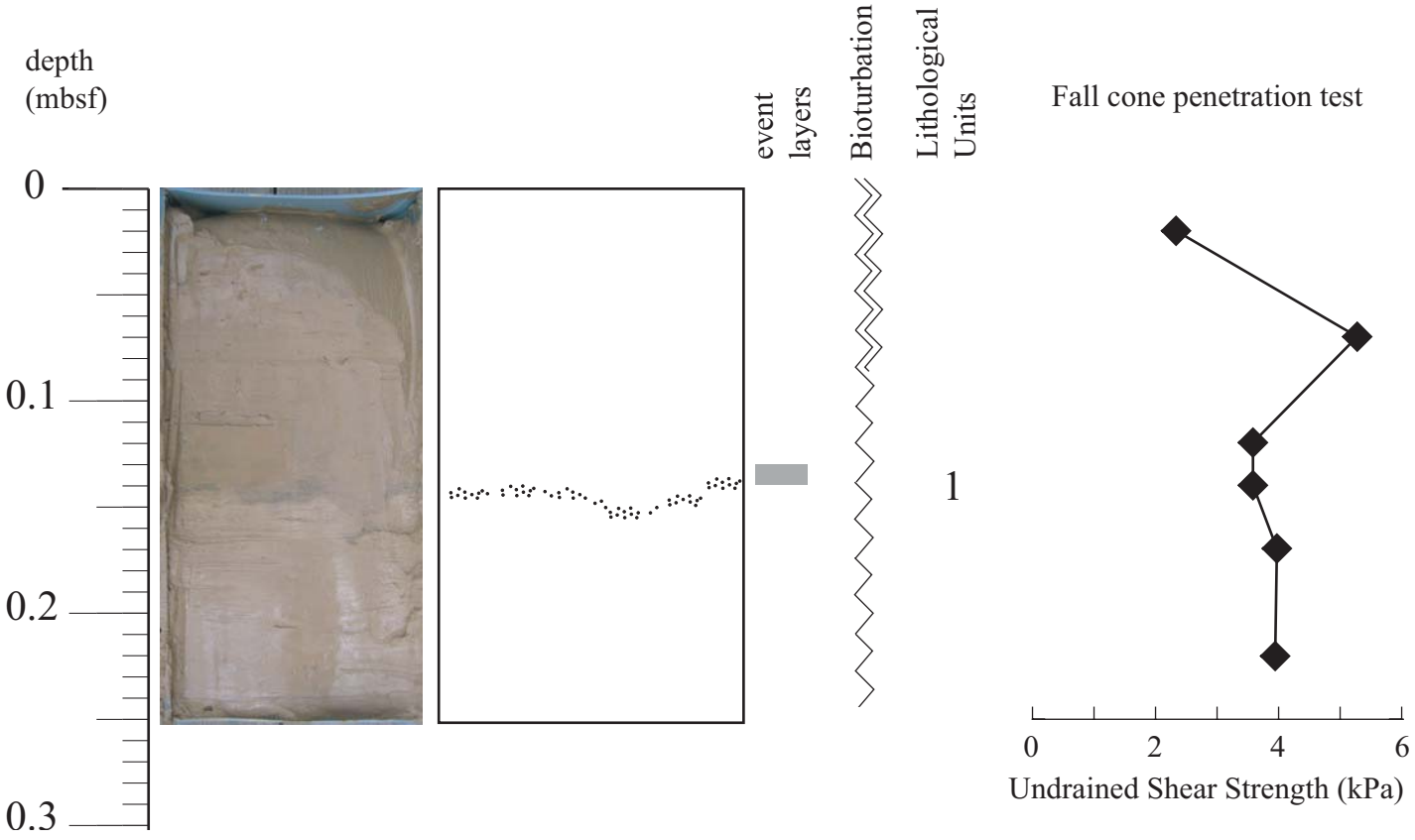
Core Log GeoB10407-1

Date: 3.5.06



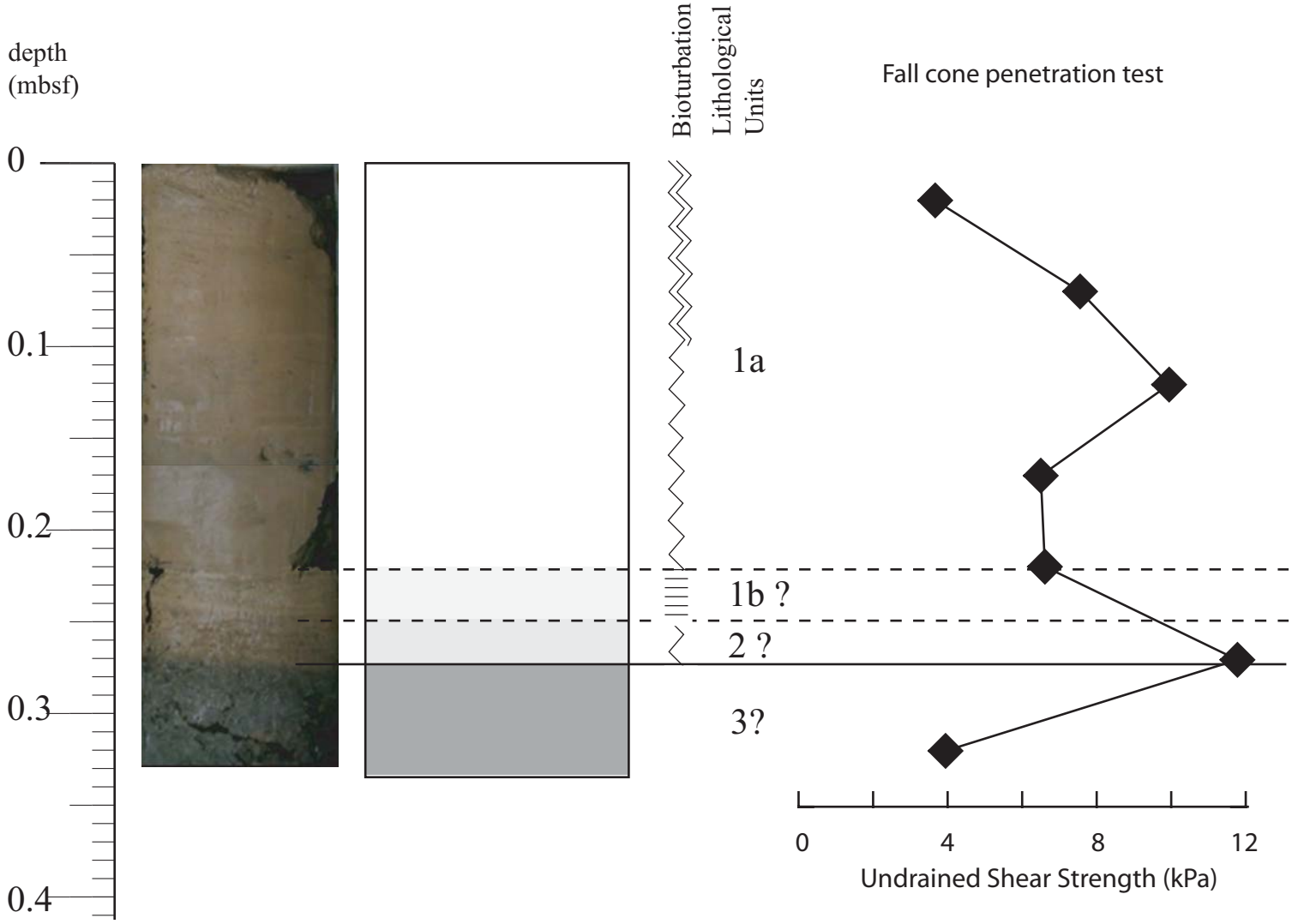
Core Log GeoB10410-1

Date: 4.5.06



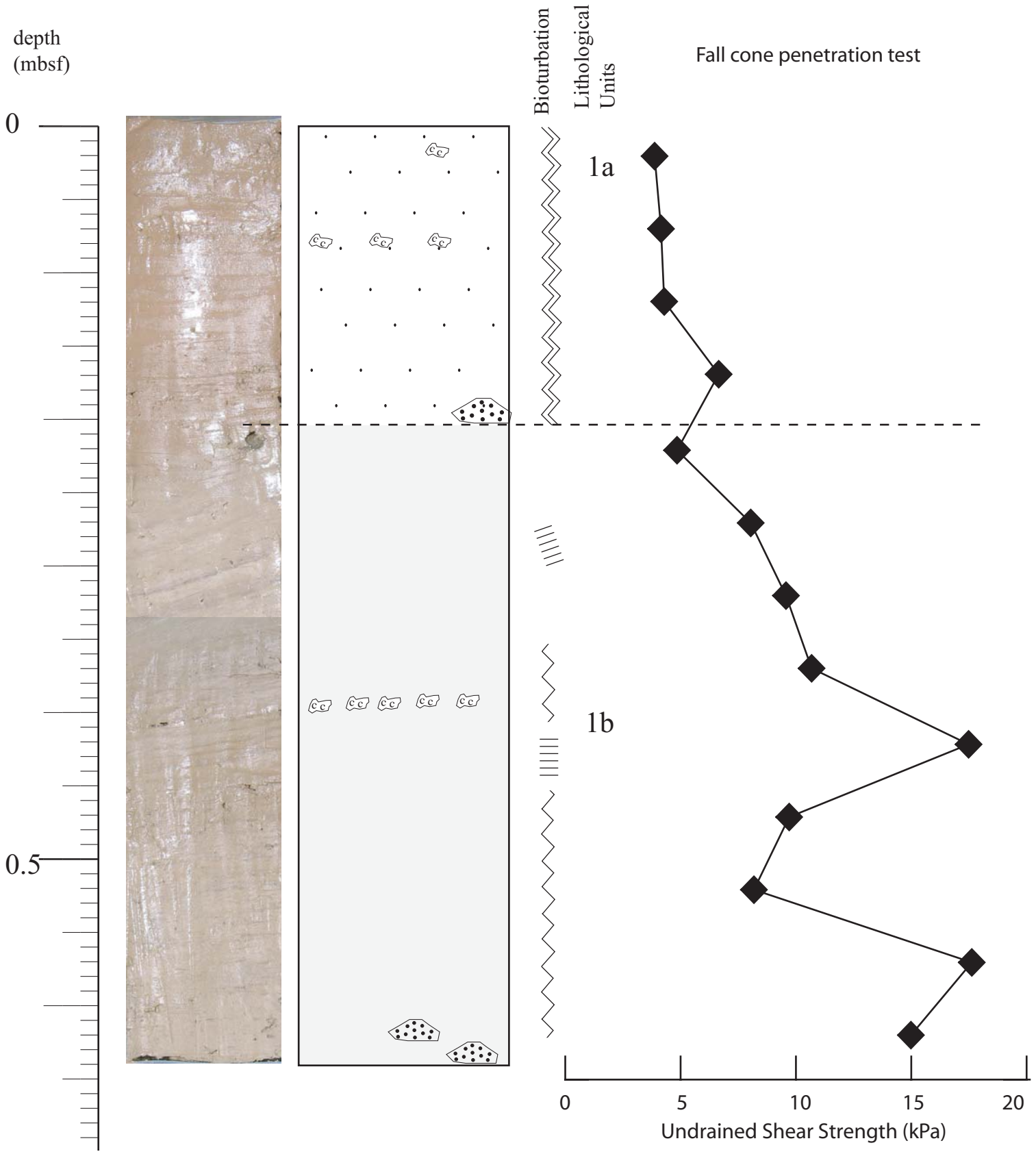
Core Log GeoB10412-1

Date: 4.5.06



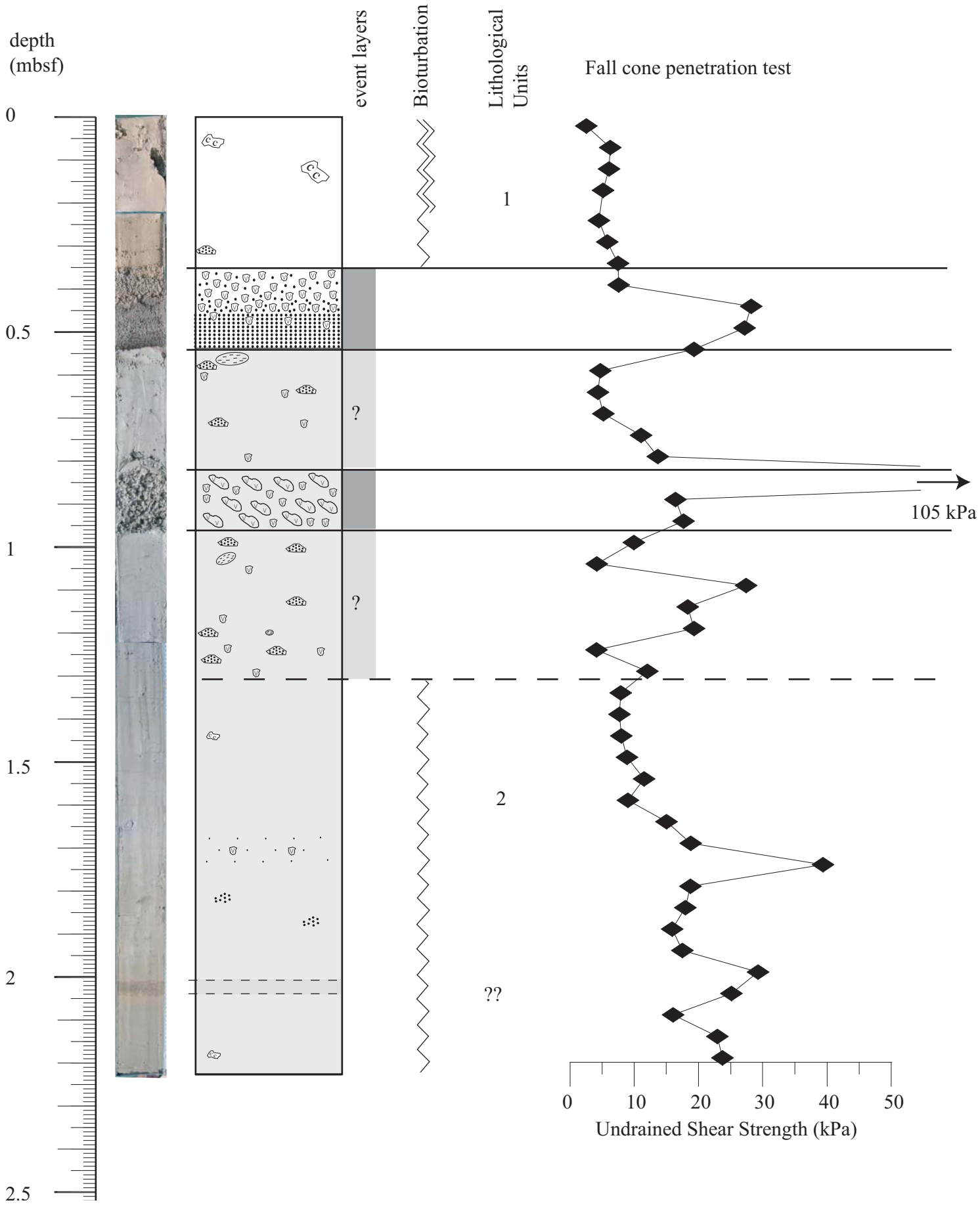
Core Log GeoB10413-1

Date: 5.5.06



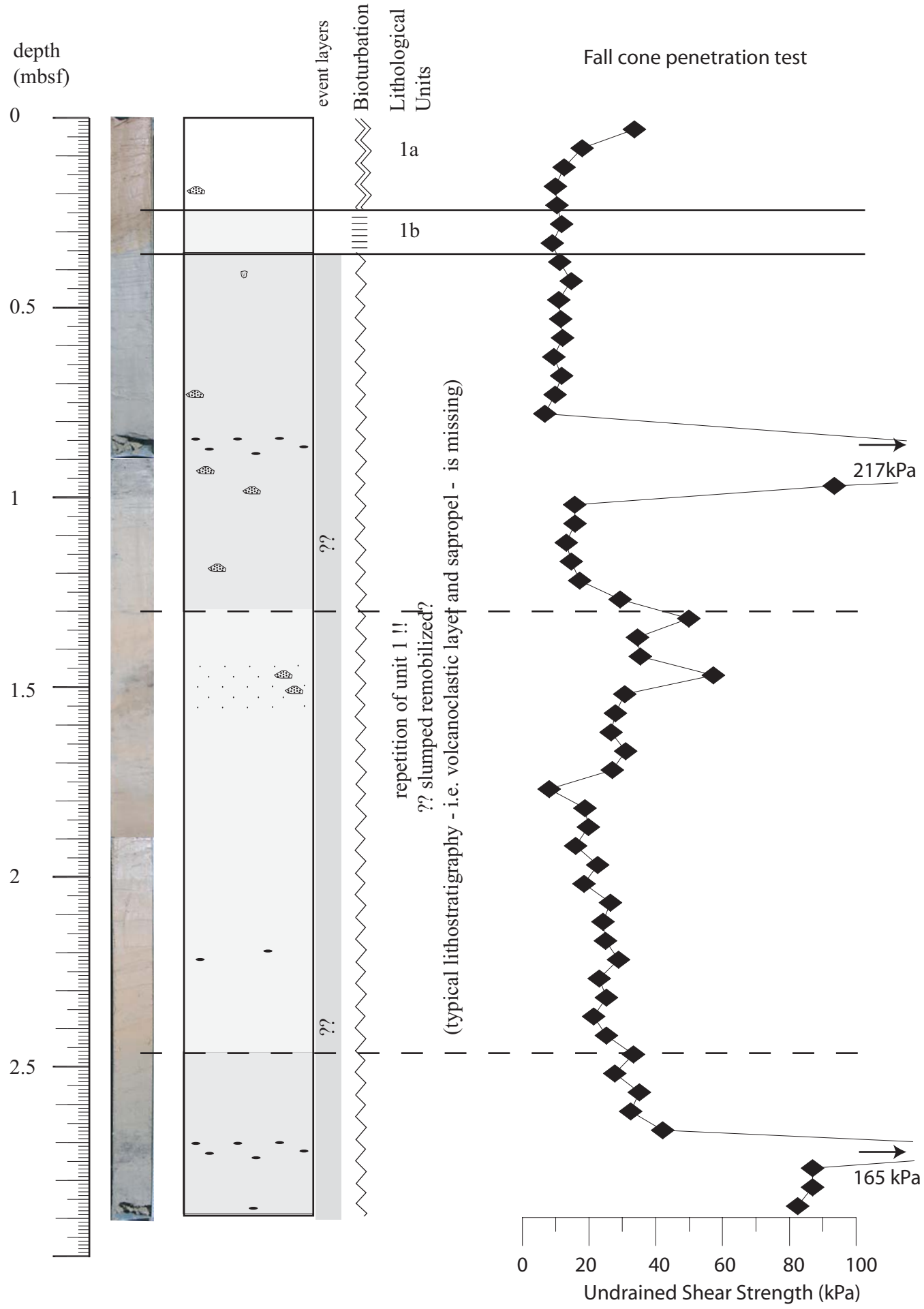
Core Log GeoB10416-1

Date: 6.5.06



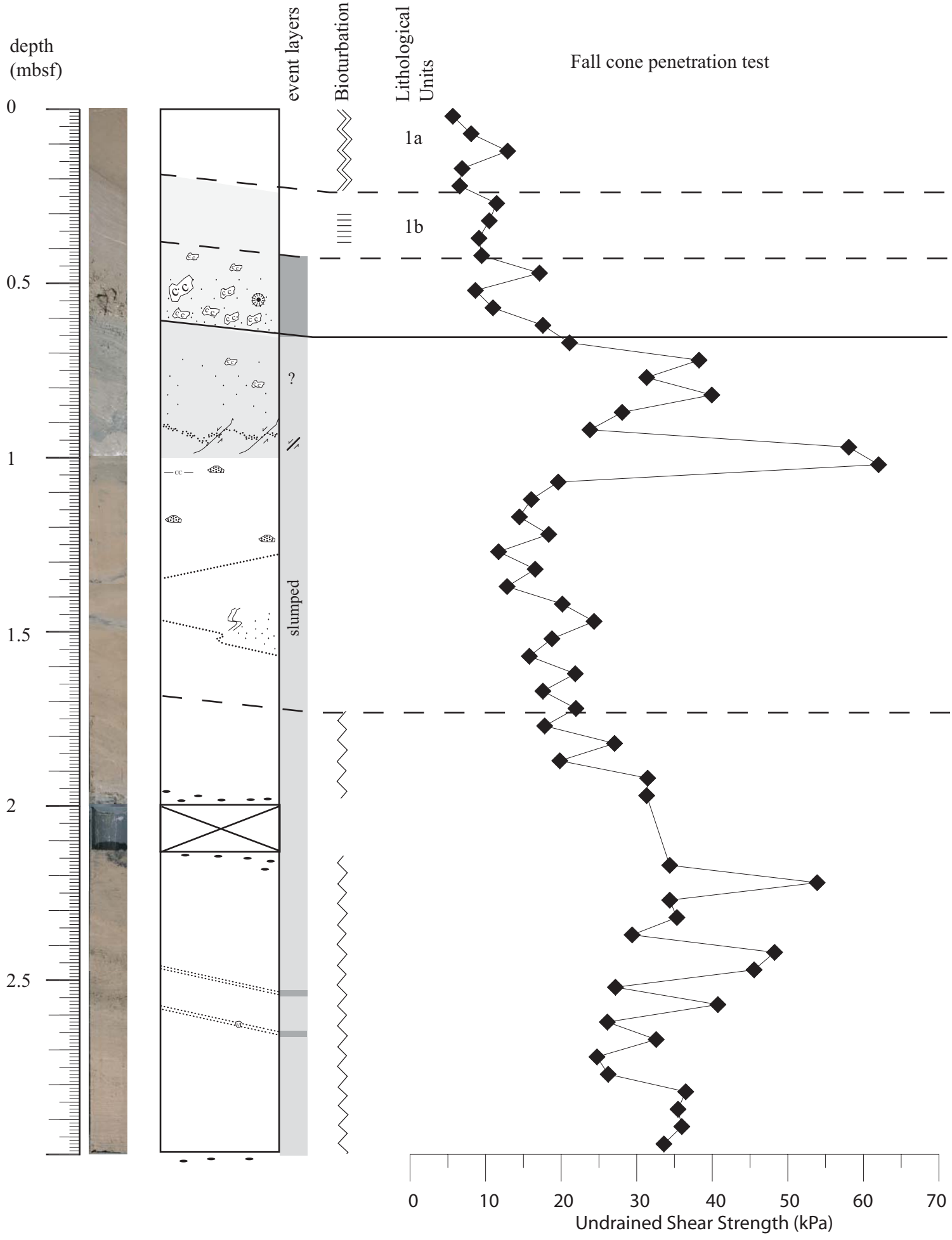
Core Log GeoB10417-1

Date: 6.5.06



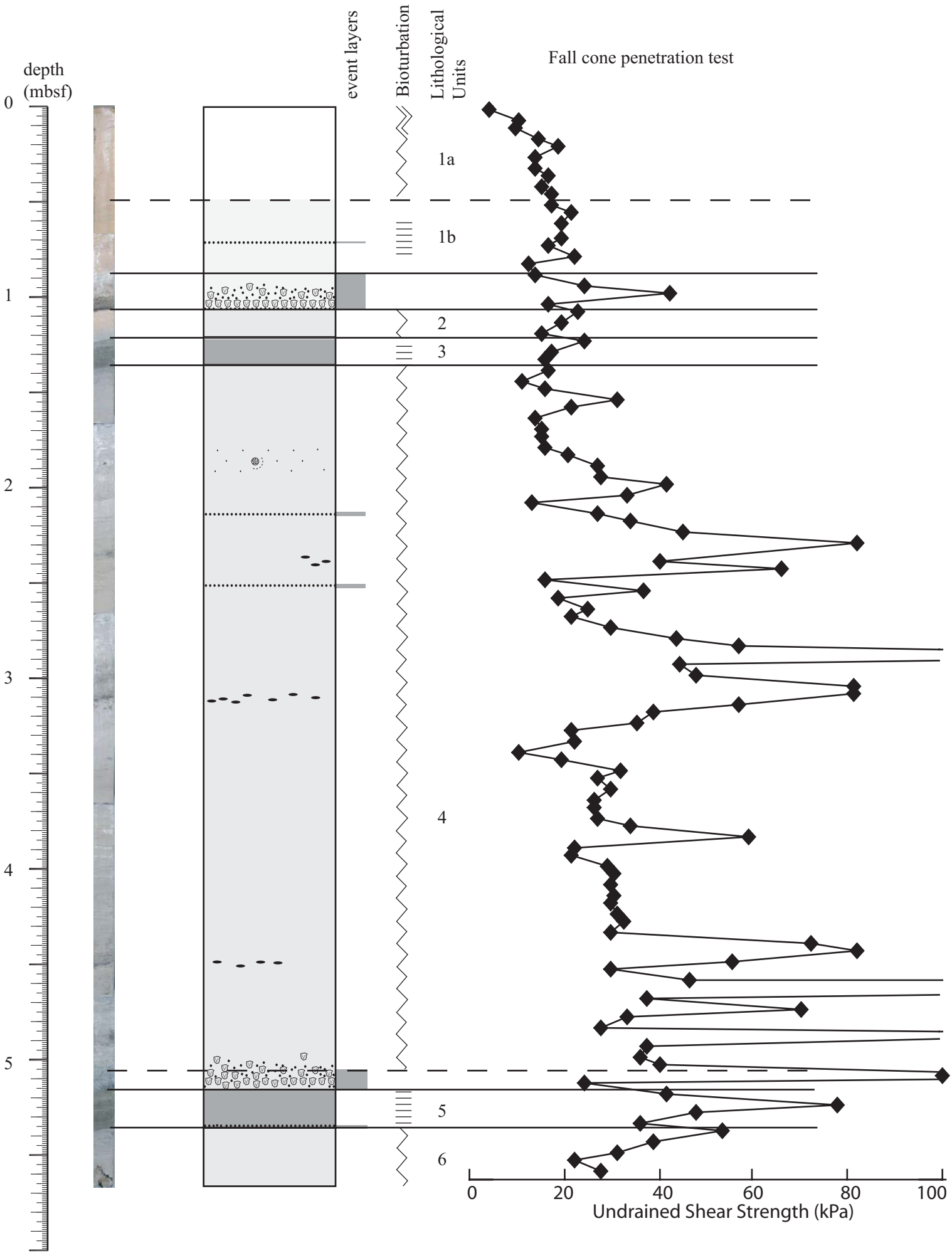
Core Log GeoB10418-1

Date: 6.5.06



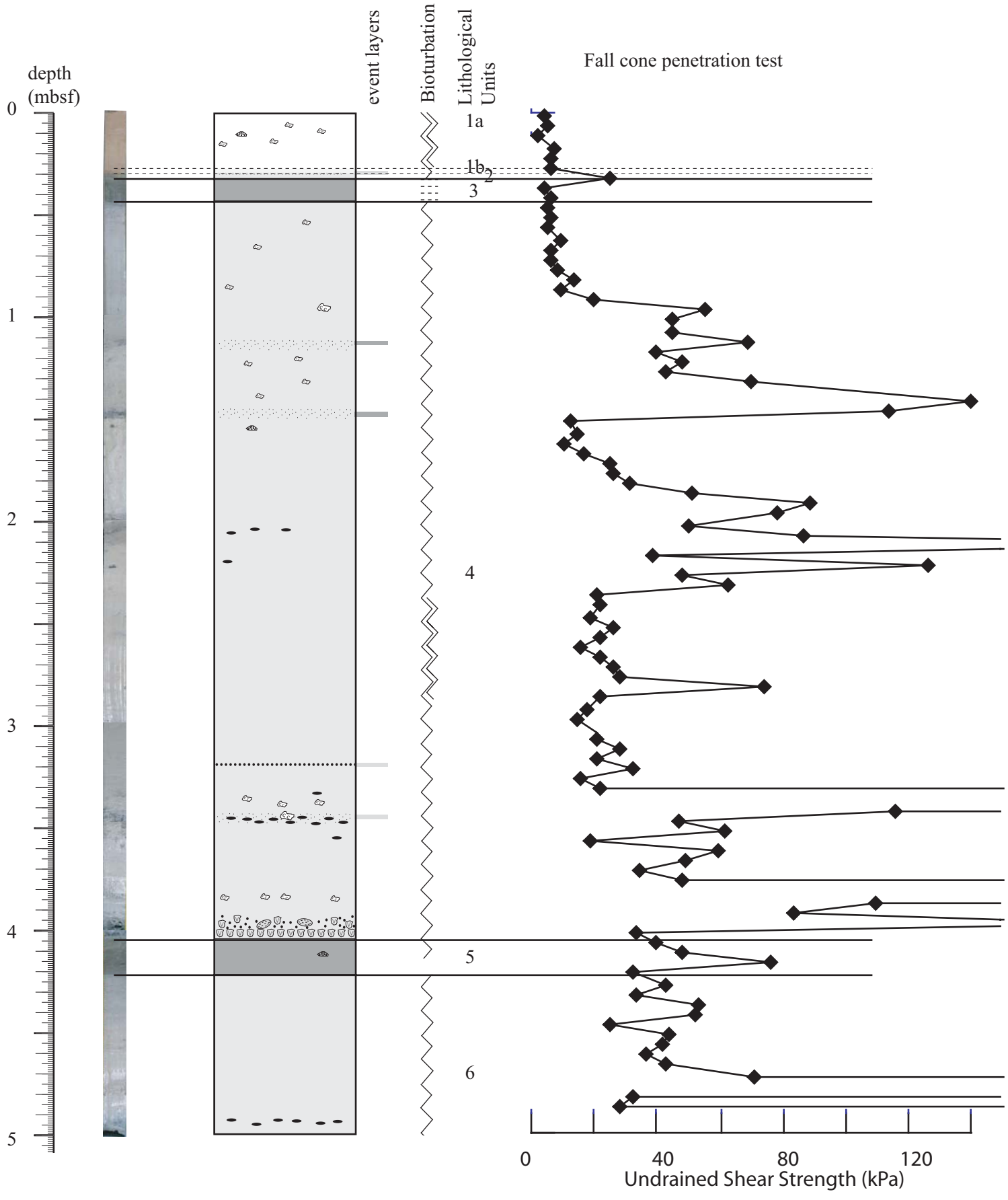
Core Log GeoB10419-2

Date: 6.5.06



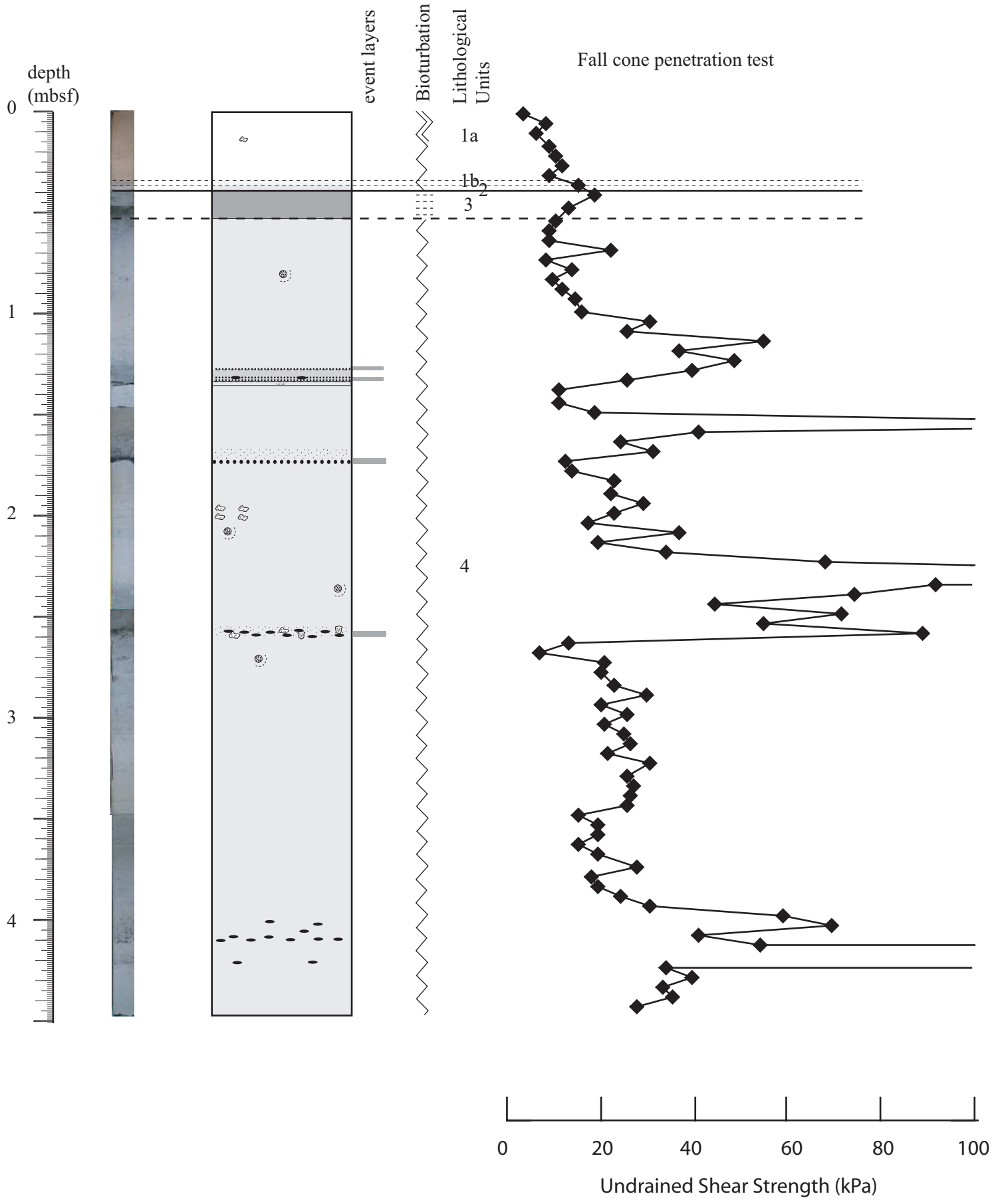
Core Log GeoB10421-1

Date: 9.5.06



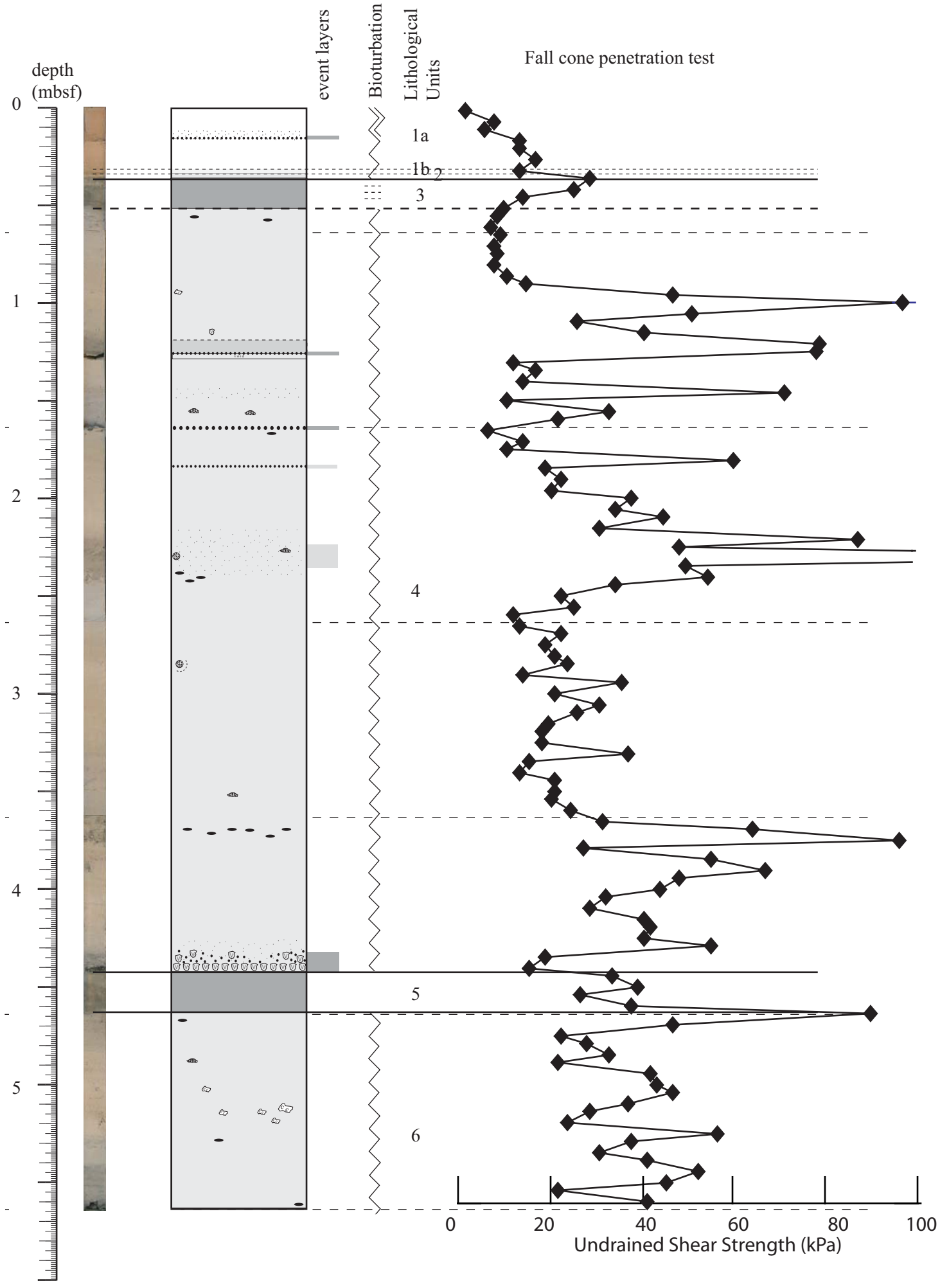
Core Log GeoB104-23-1

Date: 9.5.06



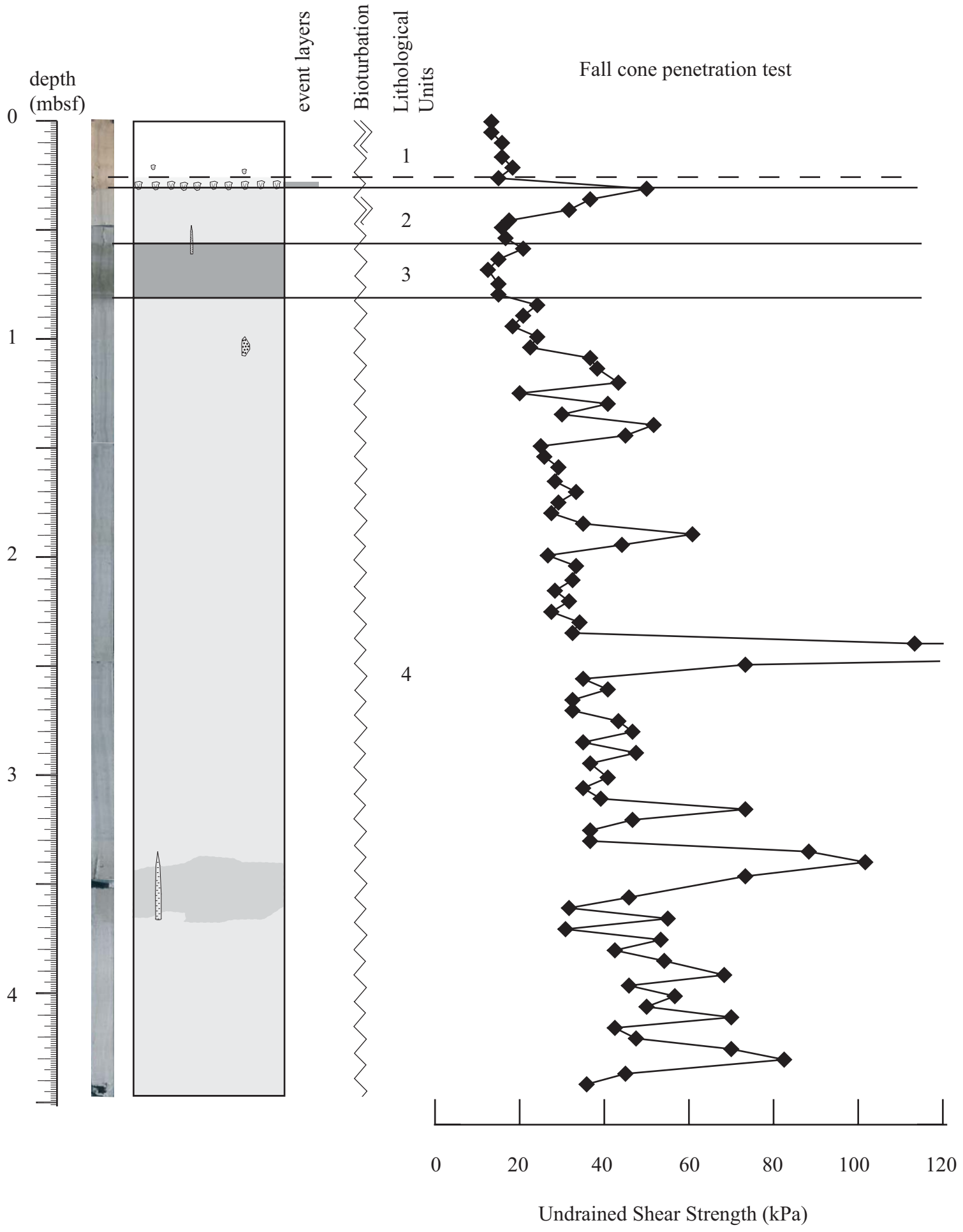
Core Log GeoB10424-1

Date: 9.5.06



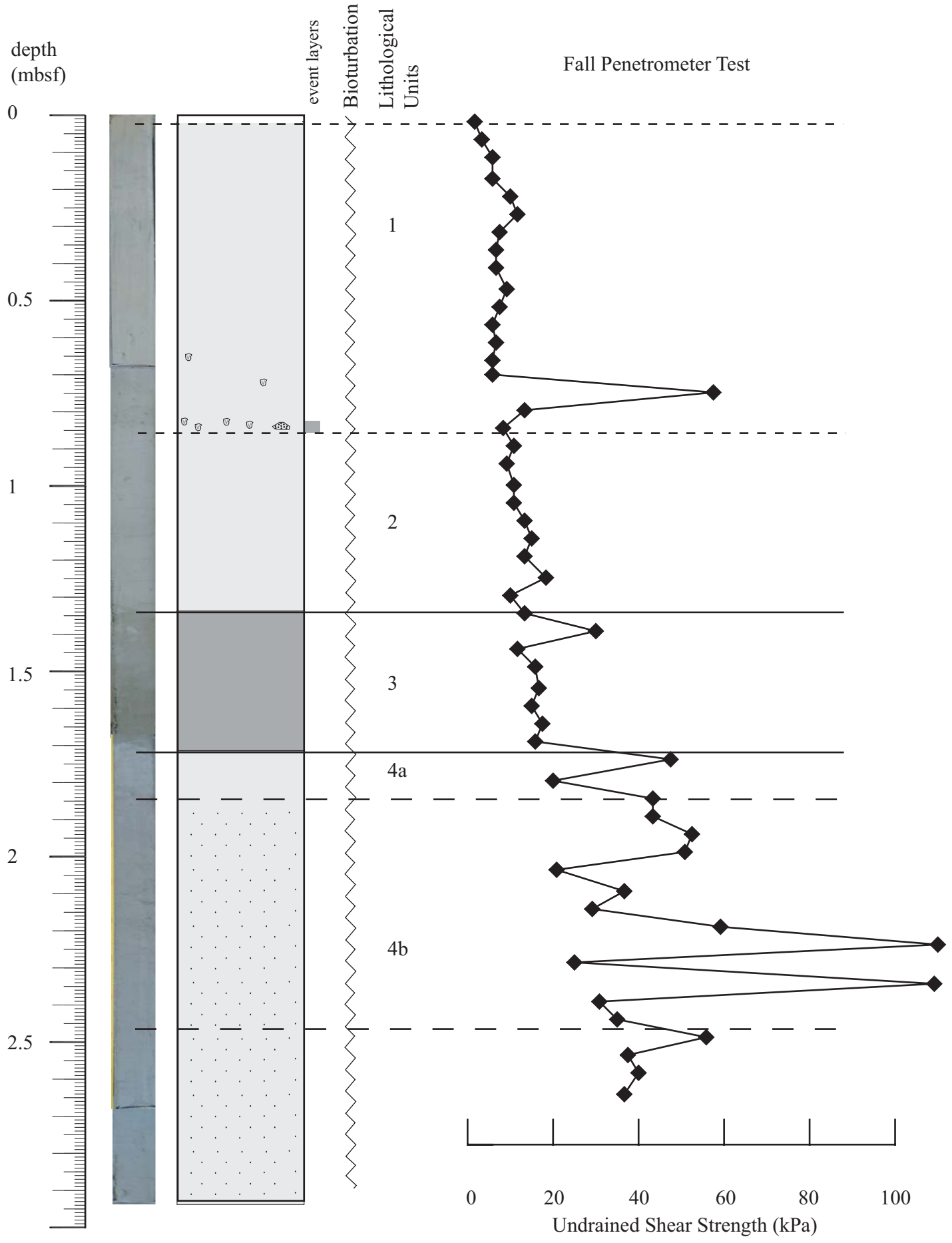
Core Log GeoB10425-1

Date: 10.5.06



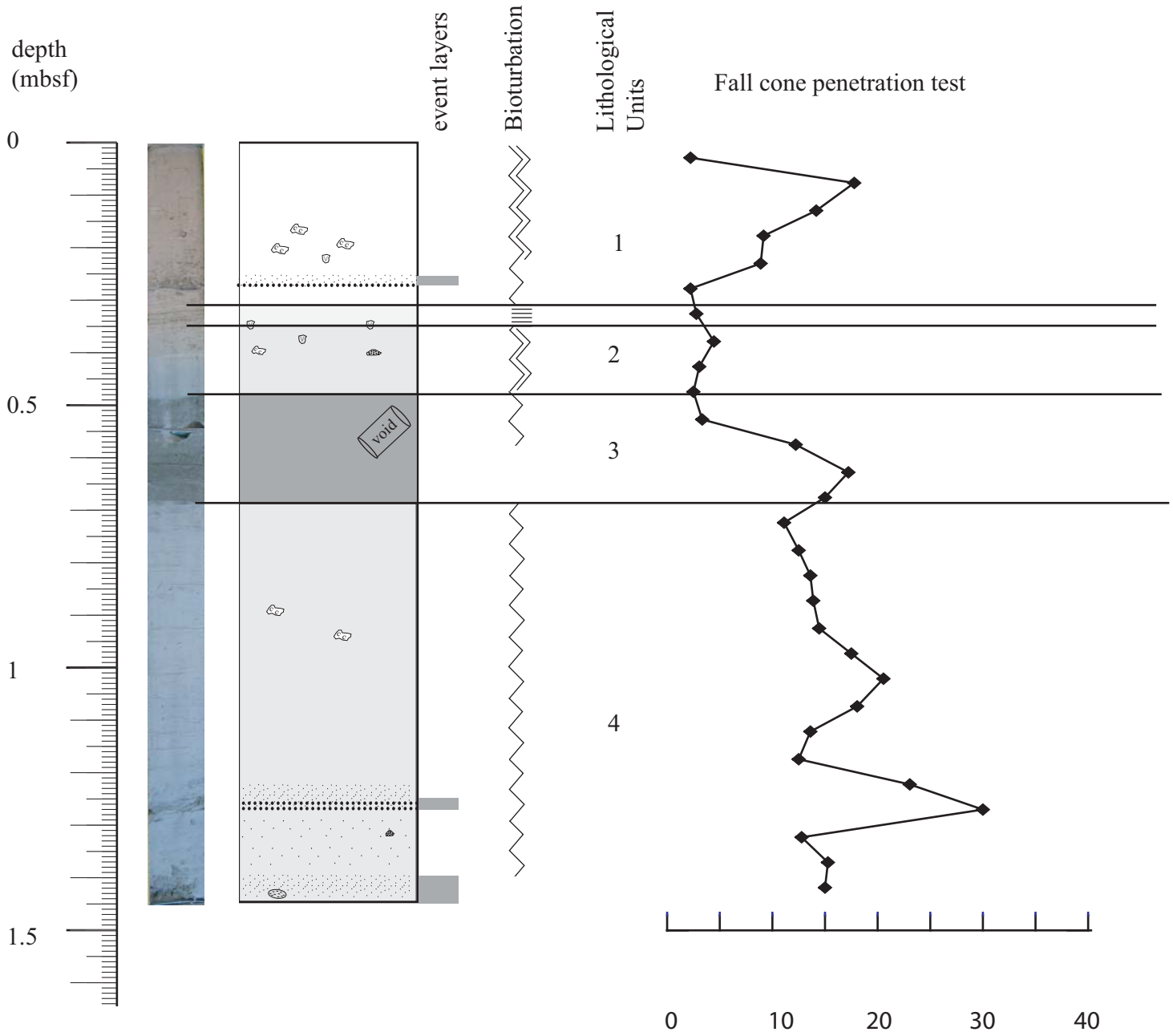
Core Log GeoB10426-1

Date: 10.5.06



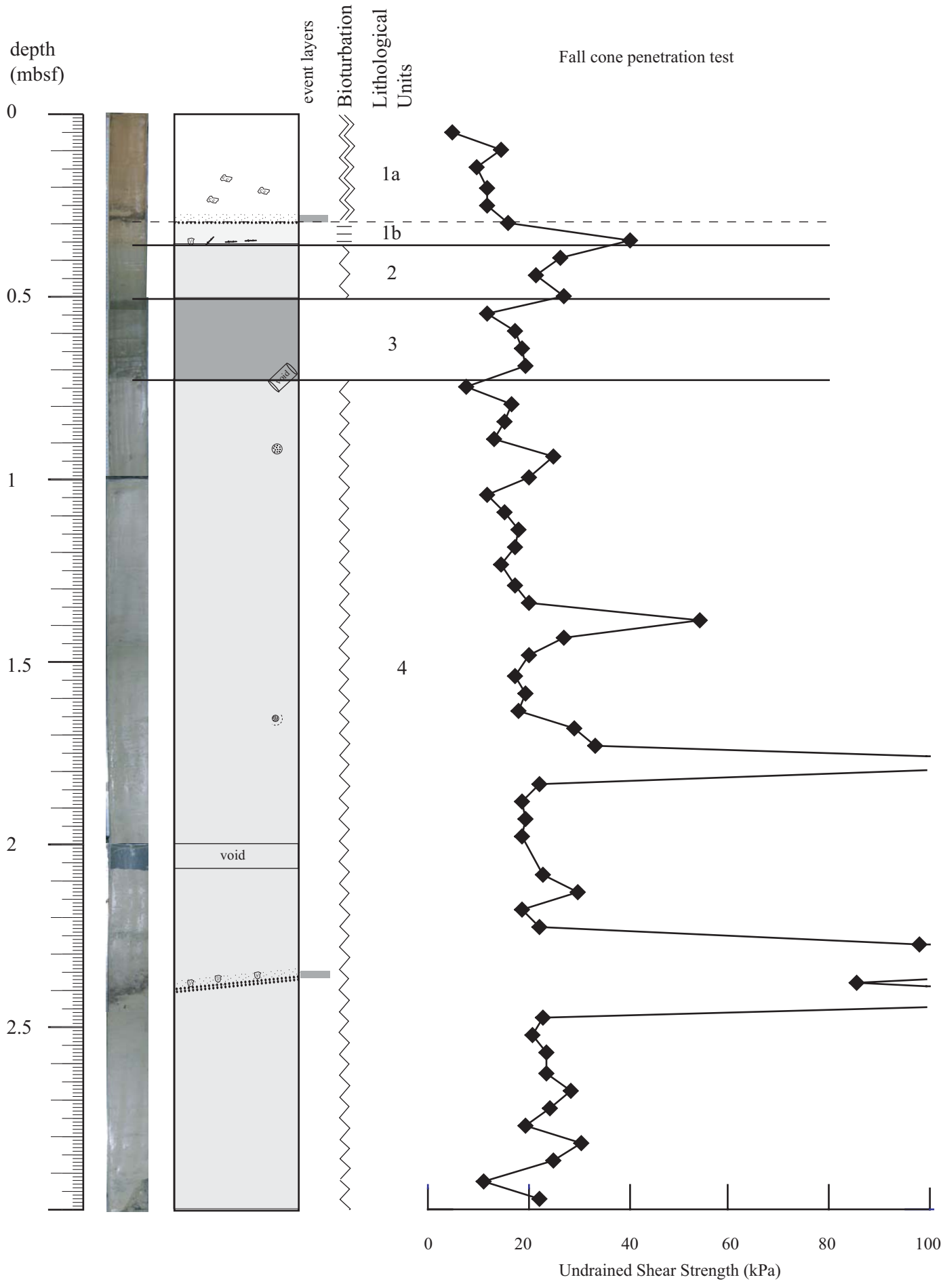
Core Log GeoB10432-1

Date: 11.5.06



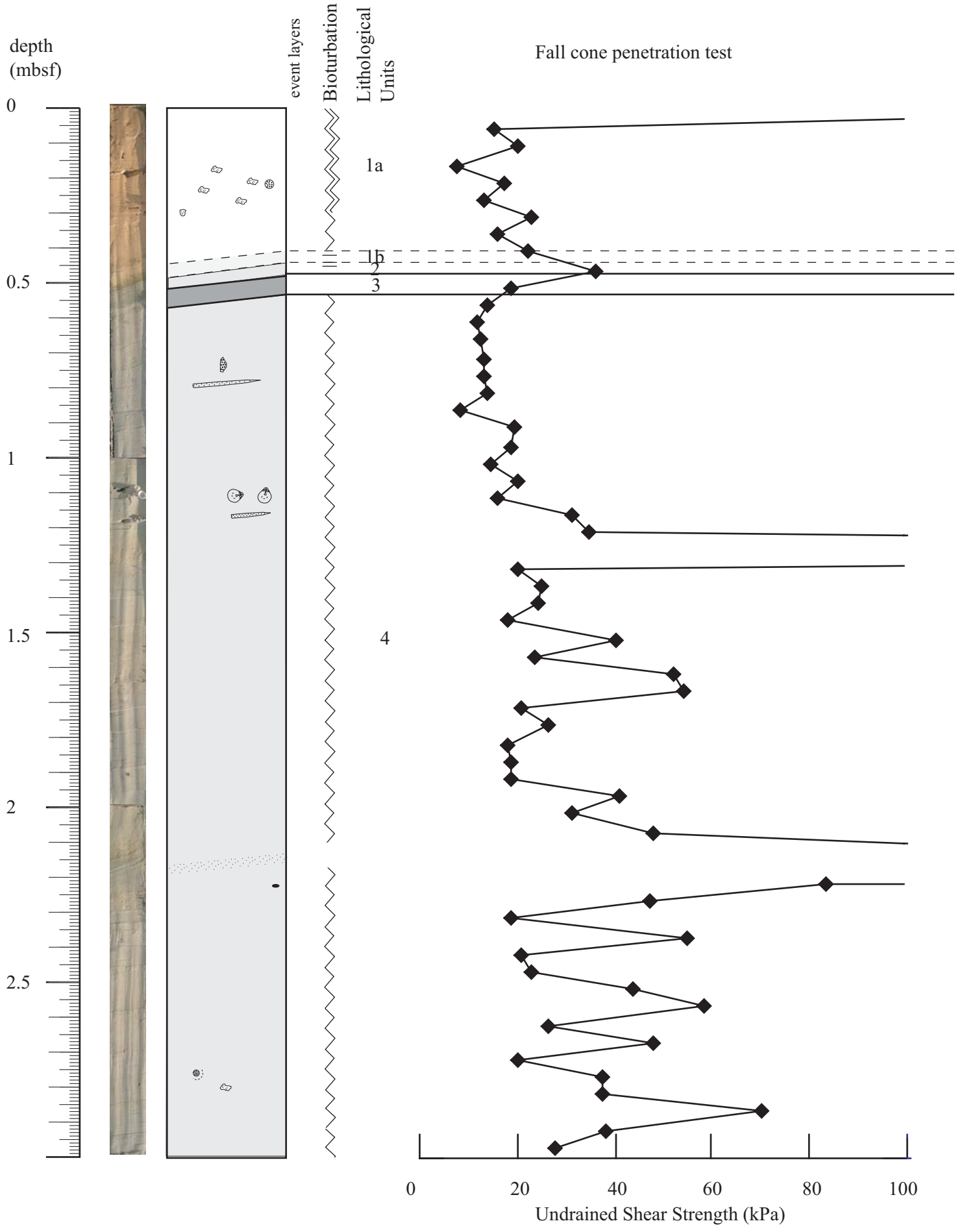
Core Log GeoB10433-1

Date: 13.5.06



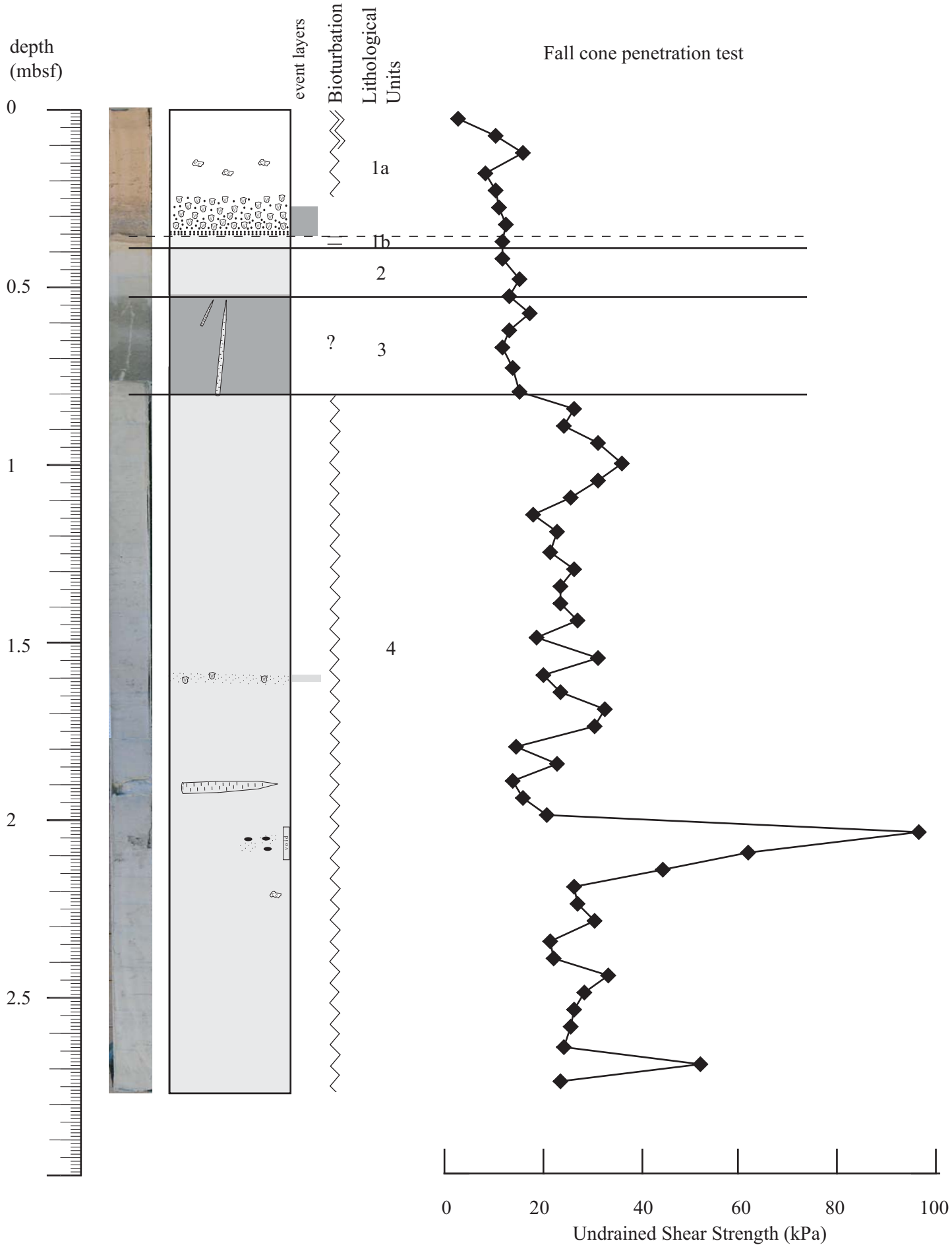
Core Log GeoB10452-1

Date: 14.5.06



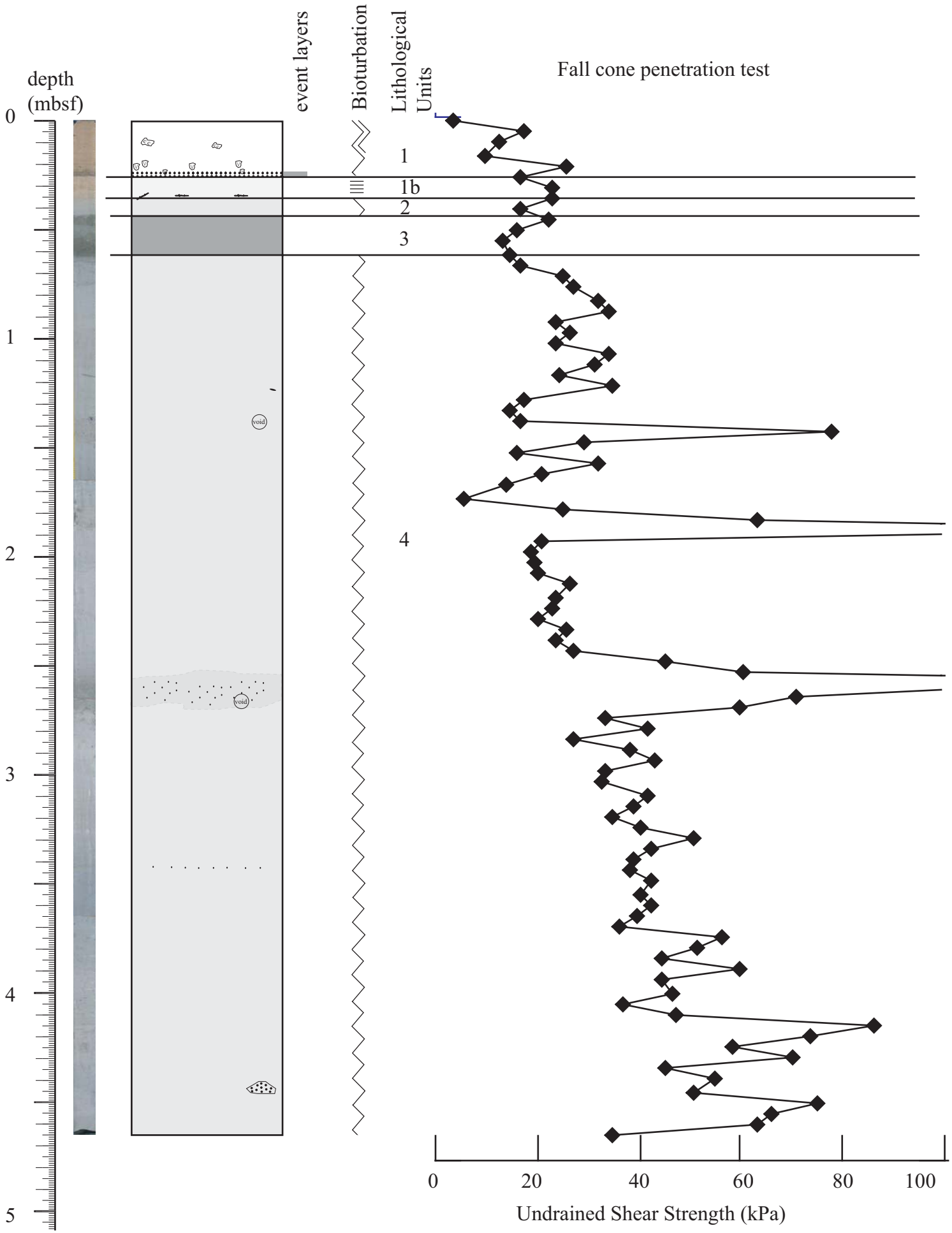
Core Log GeoB10453-1

Date: 14.5.06



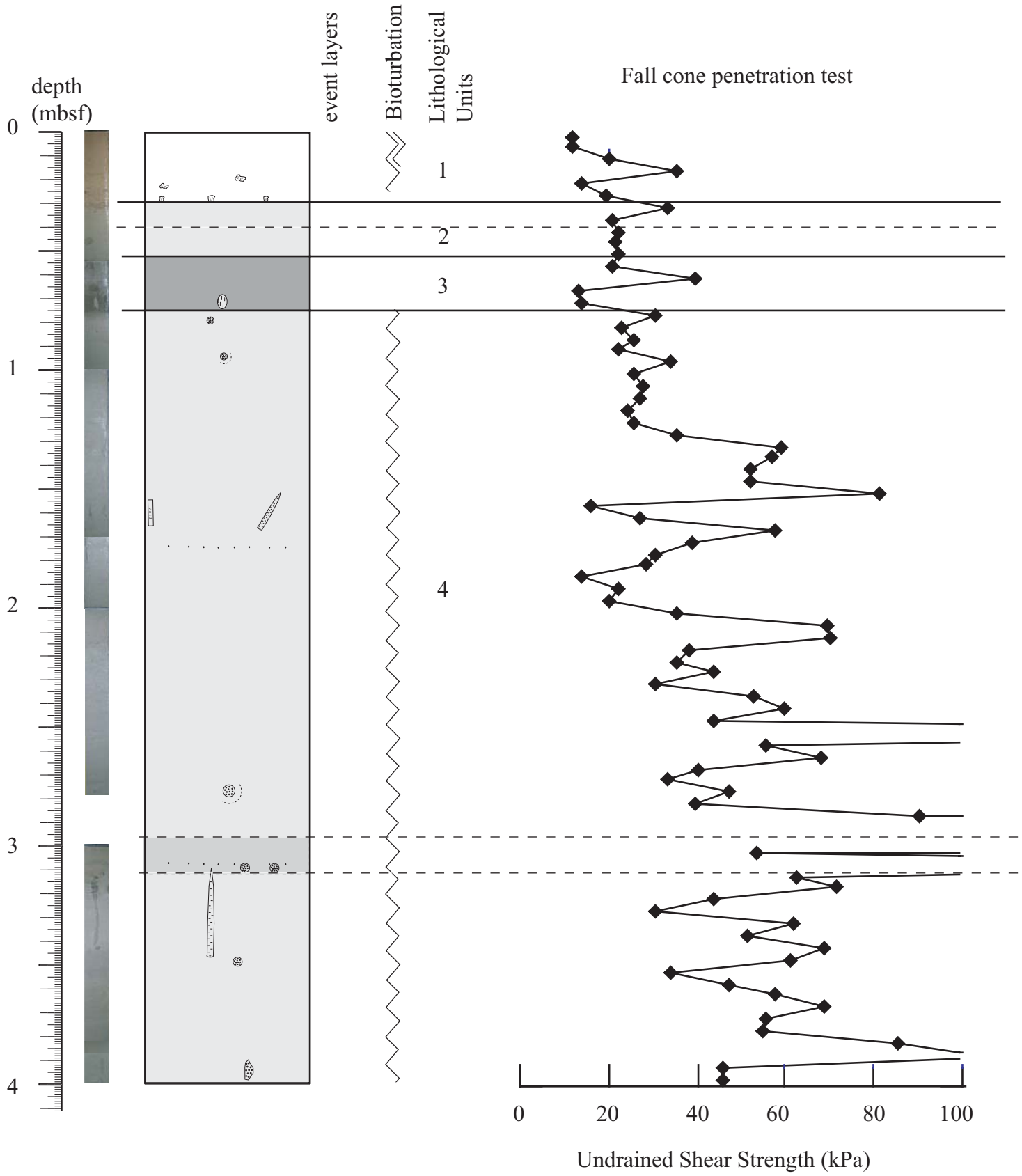
Core Log GeoB10454-1

Date: 15.5.06



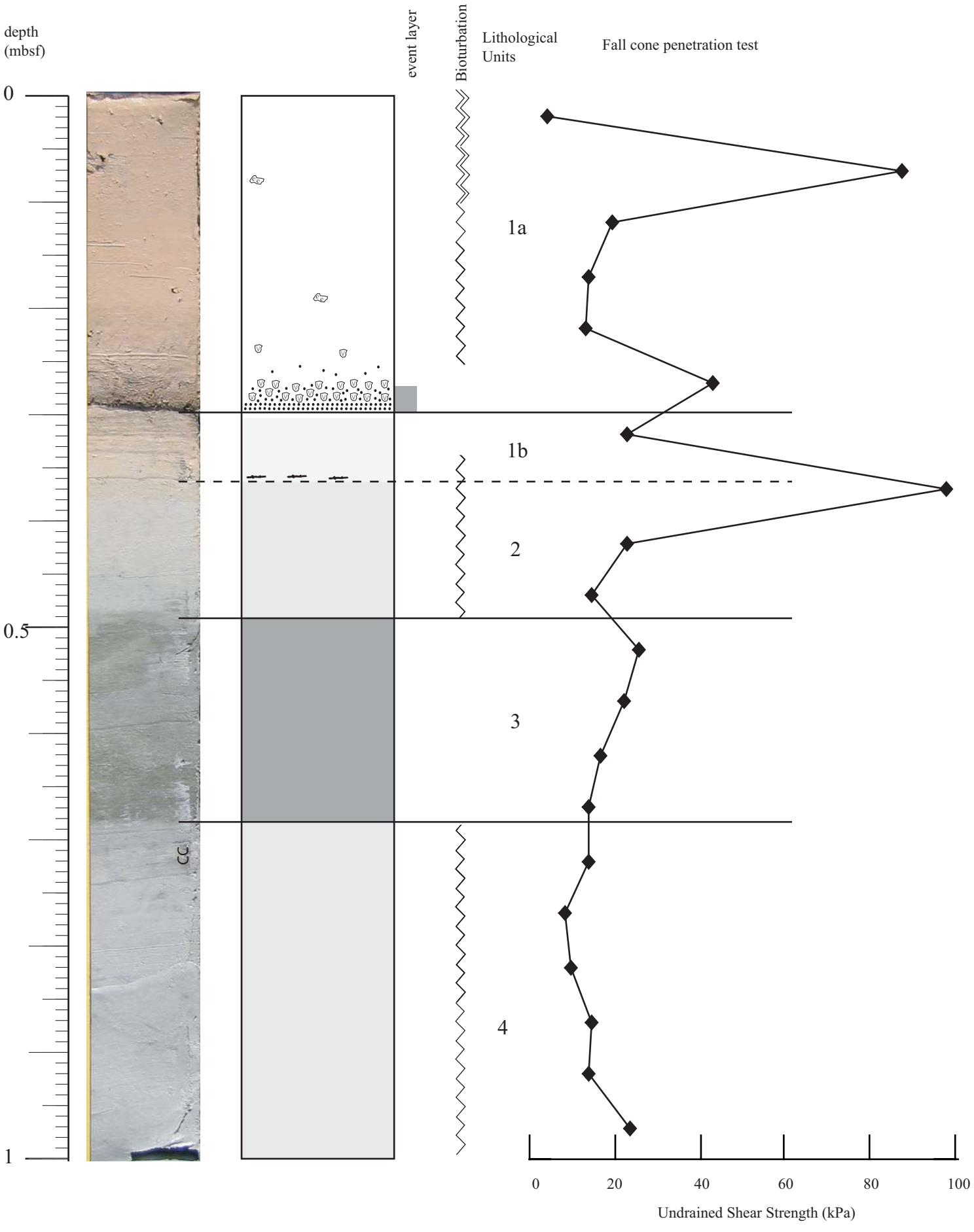
Core Log GeoB10455-1

Date: 15.5.06



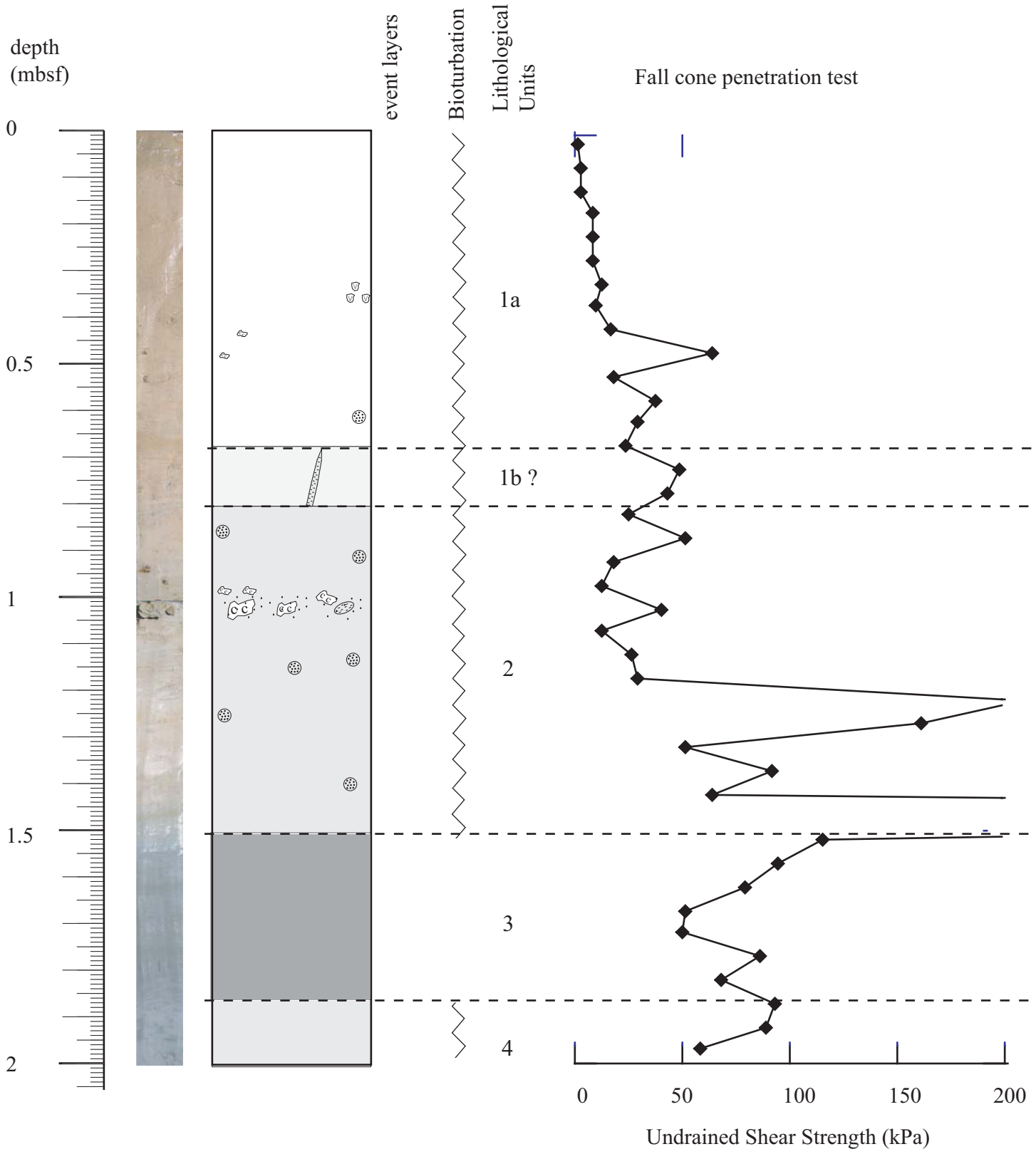
Core Log GeoB10457-1

Date: 16.5.06



Core Log GeoB10458-1

Date:16.5.06



9.3 MSCL data logs (electronic version only)

9.4 Press coverage

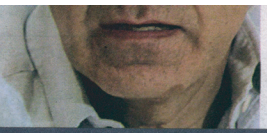
ΤΙ ΕΙΠΕ Ο ΠΛΟΙΑΡΧΟΣ ΣΤΗ «Ν.Κ.»

Ο «Ποσειδώνας» στο λιμάνι Ηρακλείου

Στις 9 το πρωί, ξεκινάει η πιο ουσιαστική ερευνητική φάση που έχει μετατραπεί σε πεδίο διπλωματικής αντιπαράθεσης στο τρίγωνο Αθήνα-Βερολίνο-Άγκυρα. ΣΕΛΙΔΑ 16

...τον Νταλάρα

ΣΕΛΙΔΑ 9

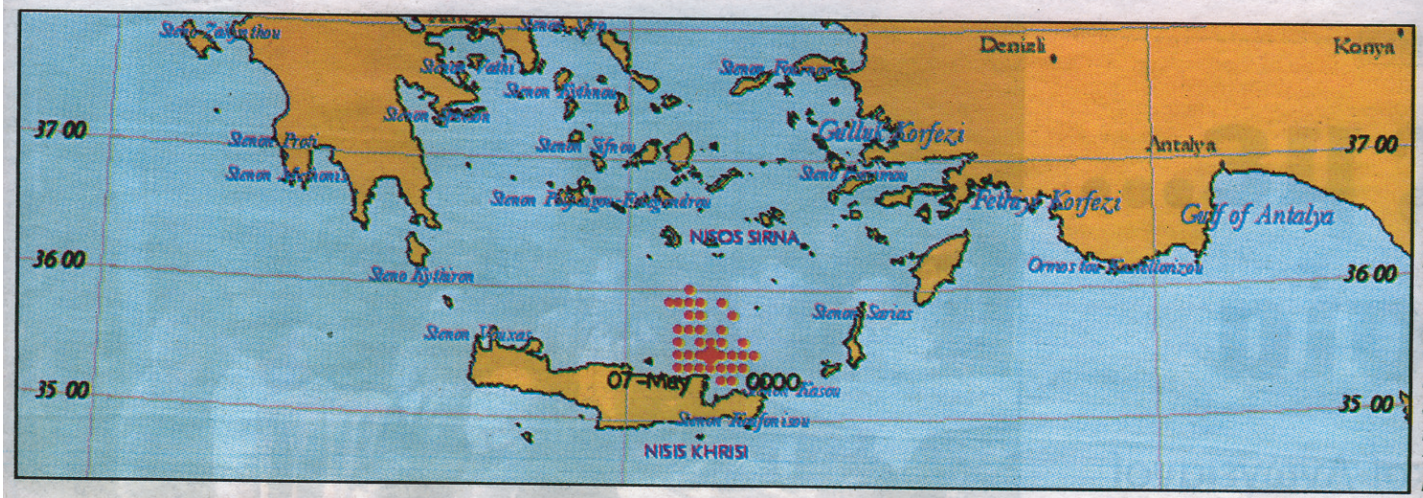


Τριμελής επιτροπή με συμμετοχή Γραμματικάκη, που το σκέφτεται, θα διερευνήσει την υπόθεση. ΣΕΛΙΔΕΣ 2-3

Η ΑΝΕΚ θα ενώσει Κρήτη με Αίγυπτο

ΣΕΛΙΔΑ 22

ΝΕΑ Κρήτη
Τετάρτη 17 Μαΐου 2006 Αριθμός φύλλου 1714 • Τιμή 0,75 €



ΤΑ ΕΡΩΤΗΜΑΤΙΚΑ ΤΟΥ ΔΙΠΛΩΜΑΤΙΚΟΥ "ΘΡΙΛΕΡ"

«Ποσειδών» στο λιμάνι Ηρακλείου

Τι λέει ο πλοίαρχος του ωκεανογραφικού στη "Ν.Κρήτη"

Στο λιμάνι του Ηρακλείου μεταφέρεται σήμερα το "θρίλερ" με το γερμανικό ωκεανογραφικό-ερευνητικό πλοίο "Ποσειδών", καθώς με τον κατάπλου του, στις 9 το πρωί, ξεκινάει η πιο ουσιαστική ερευνητική φάση που έχει μετατραπεί σε πεδίο διπλωματικής αντιπαράθεσης στο τρίγωνο Αθήνα-Βερολίνο-Άγκυρα.

ΤΟΥ ΣΤΑΥΡΟΥ ΜΟΥΝΤΟΥΦΑΡΗ

φορίες της "Ν.Κ.", τα μέλη του πληρώματος ανέρχονται σε 15. Πέραν τούτου δεν υπήρχε από πλευράς "Ποσειδών" καμιά επιπλέον πληροφορία για το ενδεχόμενο συμμετοχής και Τούρκου στην ερευνητική αποστολή.

Αξίζει να σημειωθεί ότι η όποια συμμετοχή του ΕΛΚΕΘΕ στο "Ποσειδών" λήγει σήμερα, καθώς, όπως εξήγησε στη "Ν.Κ." ο διευθυντής του Ελληνικού Κέντρου Θαλάσσιων Ερευνών, κ. Γ. Χρόνης, η σεισμολογική έρευνα, η οποία ξεκινά με τον από-

φωνα με το πρόγραμμα, το "Ποσειδών" θα
πλεύσει το ερχόμενο Σάββατο στις 9 το πρω
να ξεκινήσει τη φάση των ερευνών που αφο
στη διερεύνηση της σεισμικότητας του Αιγα

Το ωκεανογραφικό "Ποσειδών" δεν είναι η
τη φορά που έρχεται στο Ηράκλειο. Είχε κ
πλεύσει και πάλι για ανάλογο χρονικό διάστ
και με αντίστοιχο πρόγραμμα στις 26 Απριλ
Παρά την εμφανή προσπάθεια των τελευτα
εικοσιτετραώρων να πέσουν οι τόνοι, δε δια

ΜΥΚΩΝΙΑΤΗΣ
1946-1964
ΜΥΚΩΝΙΑΤΗΣ
ΘΥΝΤΗΣ 1964

ΠΑΤΡΙΣ

ΚΑΘΗΜΕΡΙΝΗ ΠΡΩΪΝΗ ΕΦΗΜΕΡΙΔΑ

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ΤΙ ΕΙΠΕ Ο ΠΛΟΙΑΡΧΟΣ ΣΤΗ «Ν.Κ.»

Ο «Ποσειδώνας» στο λιμάνι Ηρακλείου

Στις 9 το πρωί, ξεκινάει η πιο ουσιαστική ερευνητική φάση που έχει μετατραπεί σε πεδίο διπλωματικής αντιπαράθεσης στο τρίγωνο Αθήνα-Βερολίνο-Άγκυρα. ΣΕΛΙΔΑ 16

Στο Ηράκλειο το "Ποσειδών"

• Το πρωτόκολλο της Βέρνης επικαλείται η Τουρκία

Διακριτικά, αλλά μάλλον αυστηρά είναι τα μέτρα που λαμβάνει το Λιμεναρχείο Ηρακλείου για την φύλαξη του ερευνητικού σκάφους 'Ποσειδών' που κατέπλευσε χθες στο λιμάνι. Το γερμανικό σκάφος που ήταν η αφορμή να τεθεί ξανά από την Άγκυρα το ζήτημα της υφαλοκρηπίδας θα μείνει στο λιμάνι για ανεφοδιασμό και αλλαγή πληρωμάτων ως το Σάββατο.

Ακόμη και ο Γερμανός καπετάνιος κ. Μίκαελ Σνάιντερ που ερωτήθηκε πάντως χθες δεν ήξερε εάν θα επιβιβαστούν και Τούρκοι ερευνητές στο πλοίο.

"Είναι θέμα του υπουργείου Εξωτερικών" απάντησε διπλωματικά ο καπετάνιος και τόνισε ότι οι τουρκικές φρεγάτες δεν του δημιούργησαν κανένα πρόβλημα. Ωστόσο, τον παρακολούθησαν κανονικά για να επιβάλουν τη δική τους πρόθεση να συνδιαχειριστούν το Αιγαίο.

Το πλοίο έφτασε λίγο μετά τις 9 το πρωί με σκοπό την αντικατάσταση πληρώματος, εξοπλισμού, επιστημονικού προσωπικού, τροφοδοσία κοκ.

Στον κατάπλου έγινε έλεγχος από αξιωματικό του ΚΛΗ και δεν προέκυψε κανένα πρόβλημα.

Η σύνθεση κατά την άφιξη του πλοίου ήταν: 15 πλήρωμα και 11 επιστήμονες.

Όλο το πλήρωμα είναι Γερμανοί και το επιστημονικό προσωπικό είναι Γερμανοί, ένας Σουηδός κι ένας Πορτογάλος.

Από αυτούς θα αποβιβαστεί στο Ηράκλειο ένα μέλος του πληρώματος. Επίσης θα αποβιβαστούν όλοι από το επιστημονικό προσωπικό και θα έρθουν άλλοι 11.

Αυτοί οι επιστήμονες που θα επιβιβαστούν είναι όλοι Γερμανοί εκτός από ένα Έλληνα (Παρασκευάς Παγώνης από Θεσσαλονίκη) που είναι σεισμολόγος.

Οι Γερμανοί

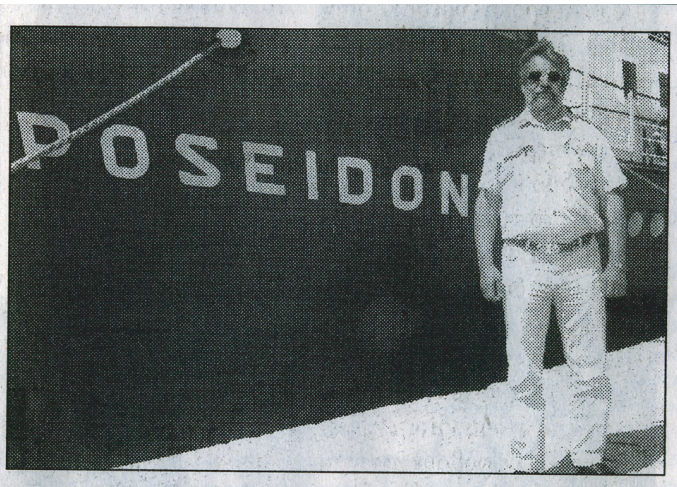
Στο μεταξύ η γερμανική πλευρά, ύστερα από τις «πιέσεις» και τα διαβήματα που δέχθηκε από την Άγκυρα, για την έκδοση ελληνικής -και μόνο- άδειας για τις τρεις φάσεις των ερευνών του γερμανικού σκάφους «Ποσειδών» στο Αιγαίο, αποφάσισε να αποδεχθεί το τουρκικό αίτημα και να ζητήσει την έκδοση άδειας για την επόμενη φάση των ερευνών, που πρόκειται να ξεκινήσει στις 23 Μαΐου και από την Τουρκία.

Κατά τις σχετικές πληροφορίες, η δεύτερη αυτή φάση των ερευνών είναι σαφώς πιο «ευαίσθητη», καθώς το πλοίο πρόκειται να κινηθεί στα διεθνή ύδατα αλλά οι έρευνες θα διεξαχθούν επί της μη οριοθετημένης, αλλά ελληνικής σύμφωνα με τα προβλεπόμενα από το Διεθνές Δίκαιο, υφαλοκρηπίδας.

«Δεν θέλουμε να εμπλακούμε σε θέματα που άπτονται του Δικαίου της Θάλασσας» φέρεται να δηλώνει το γερμανικό υπουργείο Εξωτερικών, εγείροντας πολλά ερωτήματα καθώς η ίδια η Γερμανία έχει(συν)υπογράψει τη Συνθήκη για το Διεθνές Δίκαιο της Θάλασσας που «αναγνωρίζει» ότι τα νησιά έχουν υφαλοκρηπίδα. Η θέση αυτή αμφισβητείται, όπως είναι γνωστό, από την Τουρκία.

Ο αναπληρωτής κυβερνητικός εκπρόσωπος Ευ.Αντώναρος, κληθείς να σχολιάσει τη συγκεκριμένη πληροφορία, αρκέστηκε να

Το "Ποσειδών" είναι από χθες στο λιμάνι του Ηρακλείου



Ο καπετάνιος του "Ποσειδών" κ. Σνάιντερ

πει ότι «δεν έχει περιέλθει σε γνώση της ελληνικής πλευράς κάτι τέτοιο».

«Το πλοίο βρίσκεται στην Κρήτη. Οι έρευνες έγιναν και γίνονται στο προβλεπόμενο διάστημα» είπε ακόμα για το θέμα.

Η Τουρκία

Οι θέσεις της Άγκυρας γύρω από το ζήτημα που ανέκυψε με τις έρευνες του γερμανικού πλοίου "Ποσειδών" στο Αιγαίο, εντάσσονται στο πλαίσιο του Πρωτοκόλλου της Βέρνης του 1976 και του ανακοινωθέντος της Μαδρίτης του 1997 και γνωστοποιήθηκαν στην Αθήνα, αυτό ανέφερε ο εκπρόσωπος του τουρκικού υπουργείου Εξωτερικών Ναμίκ Ταν σημειώνοντας ότι «δεν υπάρχει καμία αλλαγή στις τουρκικές απόψεις».

Ο κ. Ταν είπε επίσης ότι η Άγκυρα ζήτησε από τη Γερμανία να αποφεύγει παρεμβάσεις «στις διαφορές που υπάρχουν μεταξύ της Ελλάδας και της Τουρκίας στο Αιγαίο και συνίστανται σε πολλές νομικές και πολιτικές διαφορές».

Ο κ. Ταν υπογράμμισε ότι «από την πρώτη στιγμή δόθηκε με σοβαρότητα και σχολαστικότητα, προσοχή στο όλο ζήτημα για την υπεράσπιση των δικαιωμάτων και συμφερόντων της Τουρκίας».

Η ΤΟΛΜΗ

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ΠΕΜΠΤΗ 18 ΜΑΪΟΥ 2006

Διπλωματικό θρίλερ

Το "Ποσειδών" έφτασε χθες το πρωί στην Κρήτη και θα αναχωρήσει το Σάββατο. Ο πλοίαρχος δήλωσε πως δεν έχει καμία εμπλοκή με τον θόρυβο που έχει δημιουργηθεί μεταξύ Τουρκίας-Ελλάδας και Γερμανίας.

✓ "Έδεσε" στο Ηράκλειο το πλοίο "Ποσειδών"

ΣΕΛΙΔΑ 11

ΑΠΟ ΤΟ ΣΑΒΒΑΤΟ ΘΑ ΣΥΝΕΧΙΣΕΙ ΤΙΣ ΕΡΕΥΝΕΣ

Έδεσε ο "Ποσειδώνας"

Ανεφοδιάζεται το ερευνητικό σκάφος

Στις 9 χθες το πρωί έφθασε, όπως ήταν προγραμματισμένο, το ερευνητικό σκάφος "Ποσειδών" στο λιμάνι του Ηρακλείου και έδεσε στην προβλήτα 4.

Της ΚΑΤΕΡΙΝΑΣ ΜΗΝΑΔΑΚΗ

Αμέσως ξεκίνησαν οι εργασίες ανεφοδιασμού του σκάφους και παρά τον θόρυβο που έχει προκληθεί, ο πλοίαρχος αλλά και το πλήρωμα έδειχναν σαν να μην συμβαίνει τίποτα και σαν να μην τους έχει απασχολήσει όλος αυτός ο θόρυβος. Ή έτσι τουλάχιστον ήθελαν να δείχνουν, αφού λίγες ημέρες πριν αναγκάστηκαν να δουλέψουν έχοντας στο πλάι τους πολεμικά σκάφη του τουρκικού ναυτικού.

Το ερευνητικό σκάφος θα ξεκινήσει και πάλι τις έρευνες το Σάββατο, οπότε και θα αναχωρήσει από το λιμάνι του Ηρακλείου το ίδιο πρωί στις 9. Μέχρι τότε ελπίζουν όλοι, πως αυτός ο διπλωματικός μαραθώνιος που έχει ξεκινήσει από τις πρώτες ημέρες των ερευνών του σκάφους, θα έχει λήξει.

Χθες το πρωί, πάντως, ο πλοίαρχος του "Ποσειδών" Μίχαελ Σνάιντερ, με δηλώσεις του έκανε σαφές πως τόσο ο ίδιος όσο και το πλήρωμα του σκάφους, δεν μπαίνουν σε τέτοιες διαδικασίες και αυτό που τους ενδιαφέρει είναι να ολοκληρώσουν την αποστολή που έχουν αναλάβει.

"Αυτά τα θέματα απασχολούν τις κυβερνήσεις της Ελλάδας της Τουρκίας και της Γερμανίας και εμείς δεν ήμουν κα-

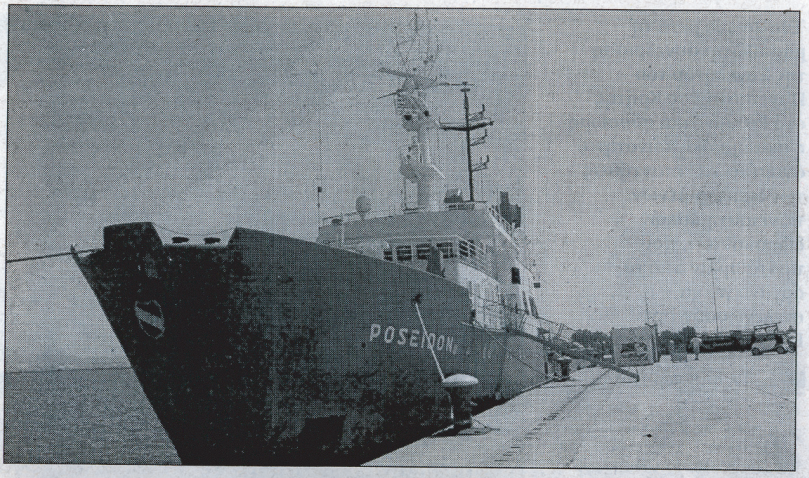
βάση το πρόγραμμά μας", δήλωσε ο πλοίαρχος του "Ποσειδών".

Από χθες ξεκίνησαν οι διαδικασίες για τον ανεφοδιασμό του πλοίου, ενώ σήμερα και αύριο αναμένονται μέλη του πληρώματος, καθώς και εξοπλισμός για τη δεύτερη φάση των ερευνών.

Ο πλοίαρχος του "Ποσειδών" τόνισε χθες πως δεν έχει καμία ενόχληση για το θέμα της εμπλοκής που έχει προκύψει από τις τουρκικές αρχές, αλλά δεν έχει και καμία ενημέρωση για το ενδεχόμενο της εμπλοκής Τούρκων ερευνητών στη δεύτερη φάση των ερευνών.

Καμία απολύτως όμως ενημέρωση δεν έχει και το Λιμεναρχείο Ηρακλείου για το "Ποσειδών" και ούτε ελήφθησαν χθες το πρωί επιπλέον μέτρα στο λιμάνι. Για το Λιμεναρχείο, η άφιξη του ερευνητικού σκάφους ήταν όπως και για κάθε άλλο πλοίο και ως τέτοιο αντιμετωπίστηκε.

"Όπως σας είπε και ο πλοίαρχος, δεν υπάρχει καμία απολύτως ενημέρωση για τη συνέχιση των ερευνών. Η αναχώρηση του πλοίου έχει προγραμματιστεί για το πρωί του Σαββάτου και όλα θα κινηθούν βάση του προγράμματος. Κανείς δεν έχει ενημερώσει ούτε εμάς, αλλά πολύ περισσότερο τον ίδιο τον πλοίαρχο για αναβολή των ερευνών ή για συγκεκριμένα μέλη πληρώματος που θα αντικαταστήσουν άλλα", δήλωσε ο ναυτικός πράκτορας Γιάννης Αδάμης, που έχει αναλάβει την πρακτόρευση του ερευνητικού σκάφους, όχι μόνο για τη χθεσινή του άφιξη στο λιμάνι του



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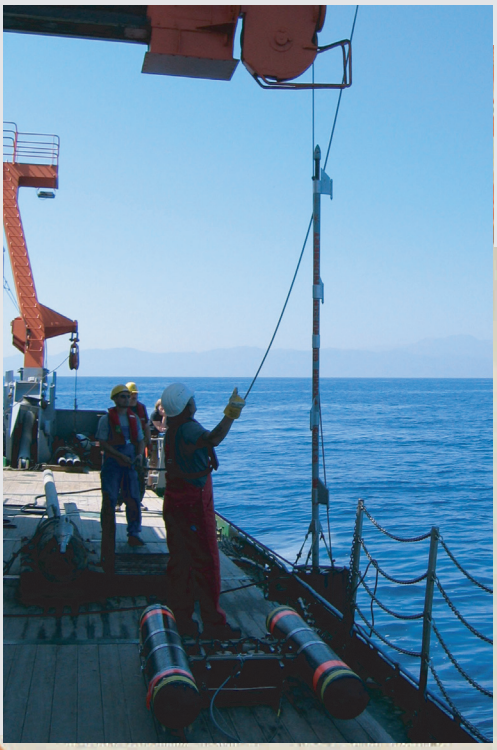
Poseidon in der Ägäis !!!

Eklat in griechischen Hoheitsgewässern. Das deutsche Forschungsschiff Poseidon, im Auftrag des RCOM Bremen im Mittelmeer unterwegs, wird in seinen Arbeiten durch eine Fregatte der türkischen Regierung (Bild) behindert. Laut Offizier Griese konnte man nur knapp einer Havarie entgehen, weshalb es ihm aber unmöglich war, die Poseidon auf den von den Forschern angebenen Positionen sicher zu steuern. Was sonst noch geschah lesen Sie auf S. 15.

Eiszeit aus Erdinnerem im Anzug?

Spielt unsere Erde verrückt? Sensationelle Ergebnisse von Bremer Geophysikern belegen Temperaturabnahme ins Erdinnere.



Wärmestromexperten der Uni Bremen fanden mit einer neuen Einsatzmethode der Gradientenlanze heraus, dass die althergebrachte Meinung, die Temperatur nähme ins Innere der Erde zu, Unfug ist. Aus den nobelpreisverdächtigen Resultaten geht klar hervor, dass der unterste Sensor die niedrigsten Werte liefert. Laut Angaben der Forscher könne das nicht nur in der Ägäis, sondern auch anderswo auf der Erde so sein. Man muss das Gerät nur entsprechend einsetzen!

rcom bremen research center ocean margins

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